TECHNOLOGY DEPT

TELEPHONE and Management ENGINEER

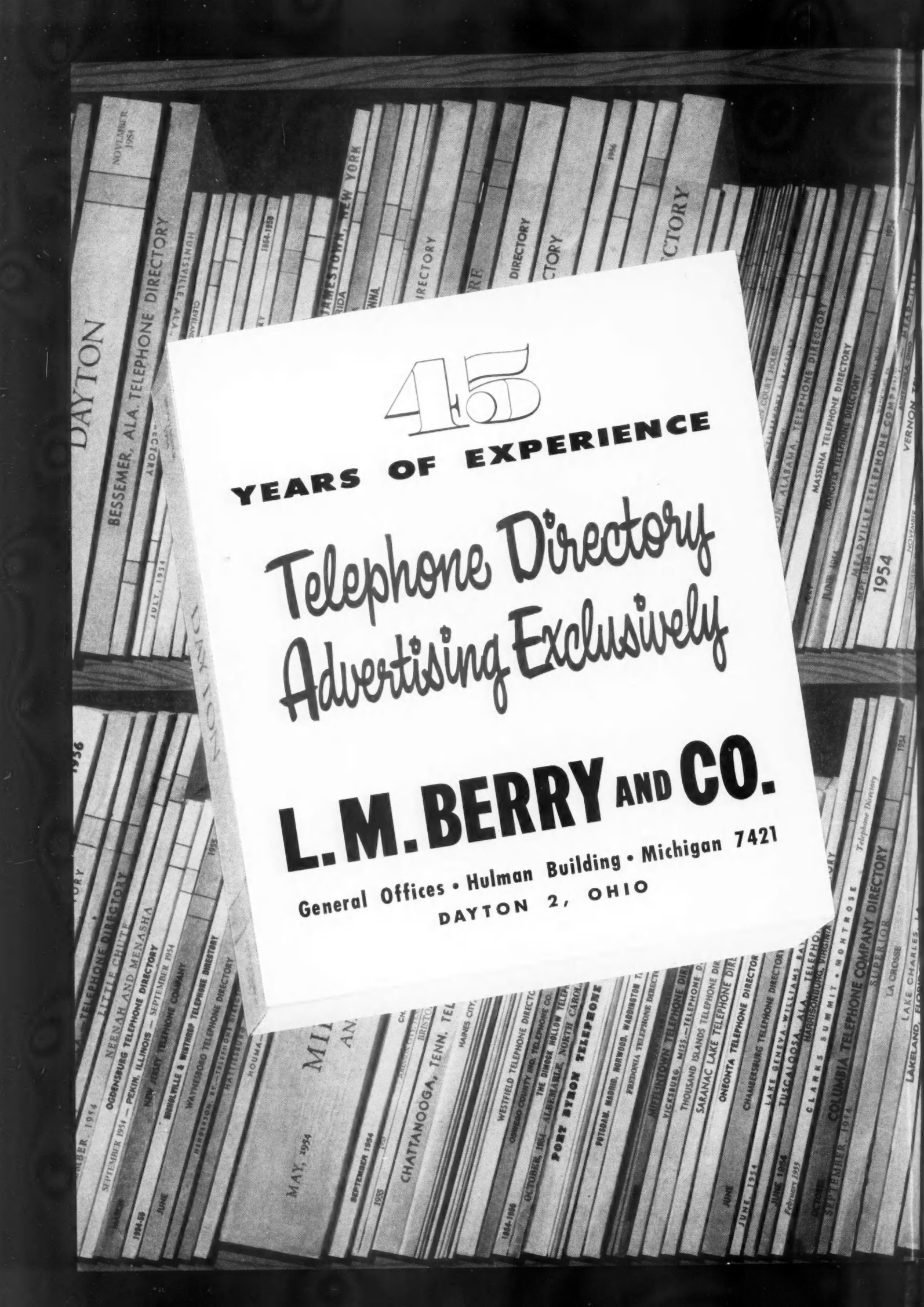
DECEMBER
1955

Season's Greetings

THE NATIONAL TELEPHONE MAGAZINE

Featuring in This Issue—

- ★ THE HUMAN RELATIONS FACTOR, *by Richard A. Enion*
- ★ STEP-BY-STEP SELLING, *by Walter G. Wright*
- ★ THE AWKWARD AGE OF A GROWING COMPANY, *by Bill Corman*
- ★ SAFETY TIPS FOR OPERATORS, *by Ruth E. Richards*
- ★ HOW TO REDUCE ABSENTEEISM, *by Ernest W. Fair*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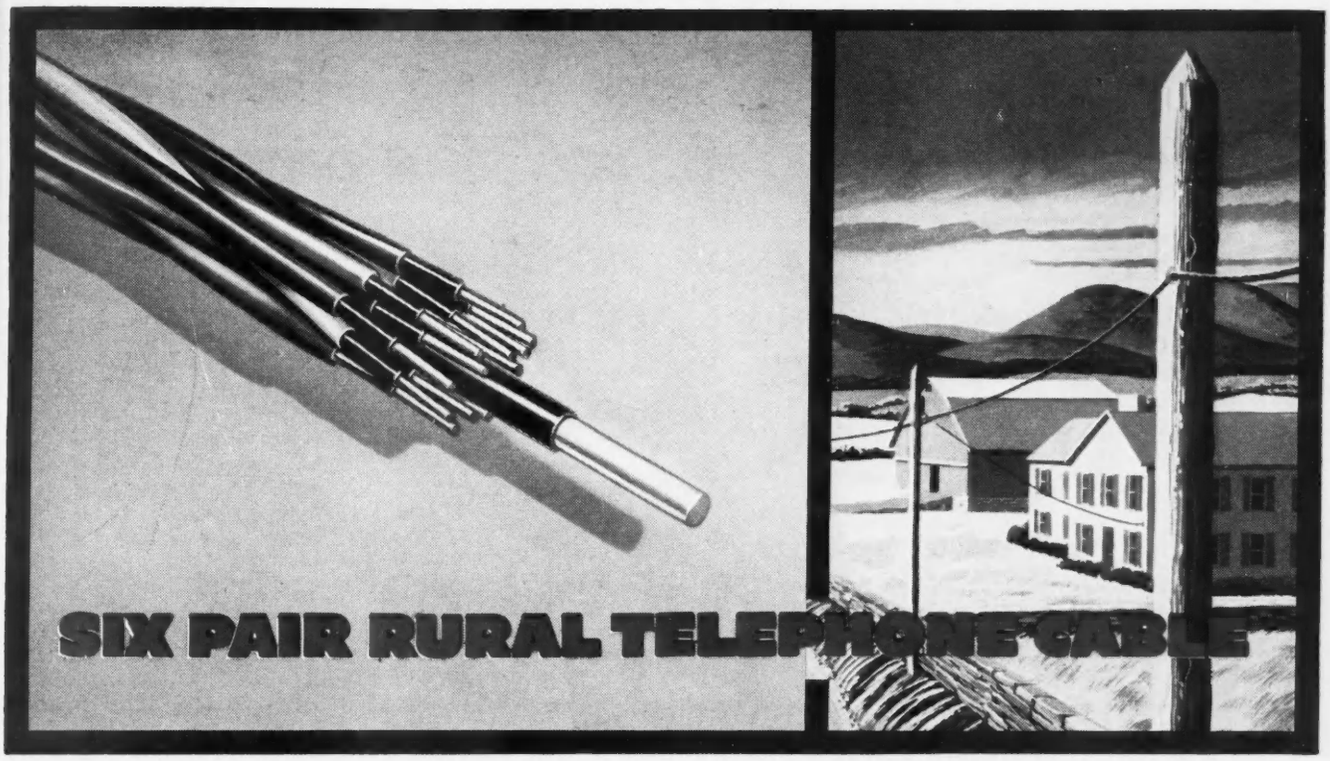

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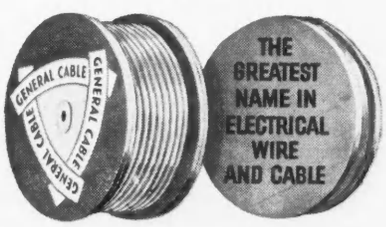

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Compare the fast, easy *Nicopress* Line Splice with older methods . . . just do this

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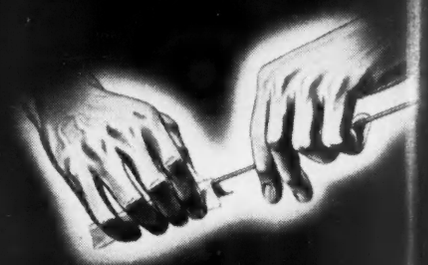
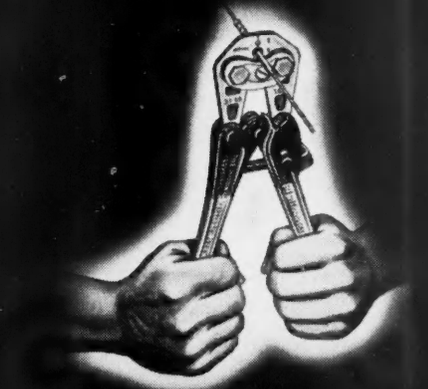


2 INSERT WIRE IN SLEEVE

3 COMPRESS WITH THE EASY TO HANDLE *Nicopress* TOOL



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TELEPHONE and Management ENGINEER

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DECEMBER 1955

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The National Telephone Magazine

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FRONT COVER

We don't know what our front-cover Santa has in his sleigh. We hope its filled with telephones for the hundreds of U. S. Citizens who are expecting new telephones for Christmas. One thing we are sure of—the message on the cover is from all of us at Telephone Engineer to all telephone men and women.—(A. T. & T. Photo.)

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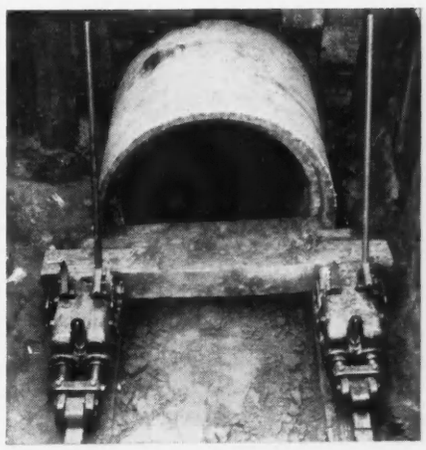
FAST, EASY WAY

TO INSTALL PIPE...

AT LOWER COST

PUSH PIPE UNDERGROUND WITH A GREENLEE HYDRAULIC PUSHER

Here's the simple, cost-cutting way to install underground pipe. Speed your jobs with a GREENLEE Pusher. One-man-operated, portable, simple to operate. No tearing up of pavement . . . eliminates extensive ditching, tunneling, backfilling, tamping, repaving. Cuts job time to a fraction. GREENLEE Hydraulic Pipe Pusher often pays for itself on first job. Two sizes — model shown above for pushing 3/4" to 4" pipe. Larger unit, below, for pipe over 4", concrete sewer pipe and large drainage ducts. Power pump (as shown above) also available for extra ease and speed of operation.



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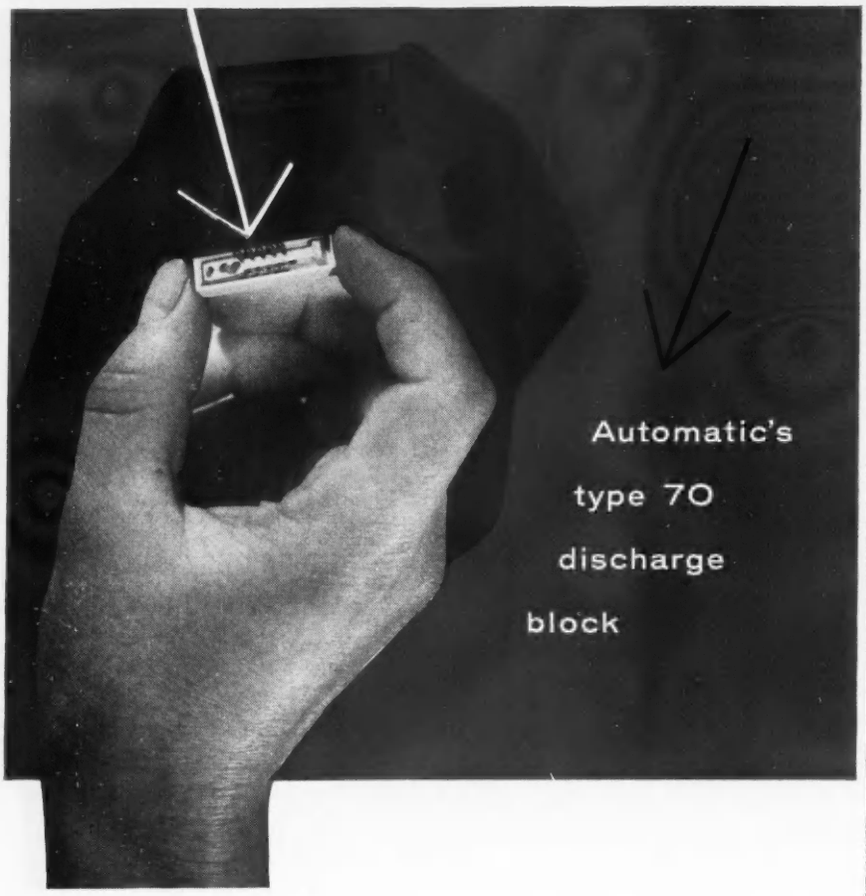

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AUTOMATIC ELECTRIC

ORIGINATOR OF THE DIAL TELEPHONE

coming CONVENTIONS

Minnesota Telephone Association, St. Paul Hotel, St. Paul, February 13, 14 and 15, 1956.

Kentucky Independent Telephone Association, Phoenix Hotel, Lexington, March 6, 1956.

Texas Telephone Association, Baker Hotel, Dallas, March 12 and 13, 1956.

Ohio Independent Telephone Association, Deshler-Hilton Hotel, Columbus, March 27 and 28, 1956.

Nebraska Telephone Association, Omaha, (Hotel to be selected), April 3 and 4, 1956.

Iowa Independent Telephone Association, Hotel Fort Des Moines, April 10 and 11, 1956.

Indiana Telephone Association, Claypool Hotel, Indianapolis, May 9 and 10, 1956.

Illinois Telephone Association, Hotel Pere Marquette, Peoria, May 16 and 17, 1956.

Wisconsin Independent Telephone Association, Loraine Hotel, Madison, May 16 and 17, 1956.

Pennsylvania Independent Telephone Association, Bedford Springs Hotel, Bedford, May 22 and 23, 1956.

Washington-Oregon Independent Telephone Associations, Hotel Multnomah, May 31, June 1 and 2, 1956.

Kansas-Missouri Telephone Associations, Hotel Muehlebach, Kansas City, Mo., June 4 and 5, 1956.

Missouri Telephone Association, Hotel Muehlebach, Kansas City, Mo., June 4 and 5, 1956.

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Service!

Here at last are the outdoor telephone booths that offer your customers the last word in service and convenience—and serve *you* better, too. They're made of Reynolds Aluminum. They can't rust, can't rot or warp, and are far more economical to maintain. Parts and glass are simply replaced. And—because they're made of lightweight aluminum—they're far easier to handle. It all results in longer booth life, less maintenance, *better service* all around.

Satisfaction!

Paystation customers appreciate the extra convenience of Reynolds Aluminum Outdoor Telephone Booths. And there are good reasons for it, too. These good-looking, functional booths are more comfortable because they have more room—plenty of ventilation—and, at the same time, ample protection from the weather. They like the large shelf for packages, too . . . *plus* the better visibility. It all pays off in customer satisfaction—a really important advantage for you.

Sell!

Here are the outdoor booths that pay their own way and more in added paystation revenue. They increase business because they invite it—out in the open where they're easy to see, easiest to use. And here's something else! Reynolds Aluminum Outdoor Telephone Booths truly add bonus revenue—without reducing the number of calls from existing indoor paystations. Actual installations at the same location as existing indoor facilities prove it! Put them to work for you. Write today for full information and the name of your nearest distributor. **Reynolds Metals Company, 2000 S. Ninth Street, Louisville 1, Kentucky.**

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Strand is terminated here
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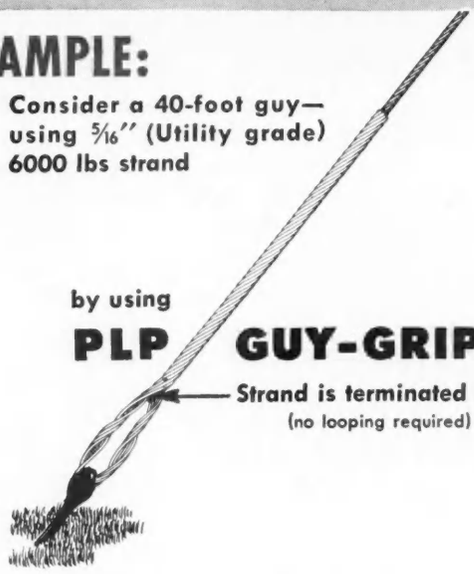

1 Since PLP Guy-Grips eliminate looping, strand saving of 6 feet or more per guy results. **SAVING: $.29 per guy**

2 Substitute ¼" Extra High Strength Strand — rated 6650 lbs. PLP Guy-Grips make this possible since they hold the full rated strength of E.H.S. Strand. The following strand savings result (current cost of 5/16" galvanized strand is $1.93 per guy while ¼" E.H.S. costs $1.36 per guy)*: **SAVING: $.57 per guy**

TOTAL STRAND SAVING ALONE $.86 per guy

3 Preformed Guy-Grips cost only $.55 each for ¼" E.H.S. Strand size. (PLP Cat. No. 25 GDE-¼")

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In every Preformed Guy-Grip installation, you hold the full strength of the strand.

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PLP GUY-GRIPS ARE ALSO AVAILABLE IN COPPER-WELD, BRONZE, AND STAINLESS STEEL.

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PLP GUY-GRIPS DON'T SLIP . . . even under impact!

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INDUSTRY NEWSLETTER

BUSY DAYS FOR GENERAL

Donald C. Power, pres., General Tel. Corp., has reported that General expects to earn "in neighborhood of $2.60 a share" on combined properties this year. He said the company plans to raise $80 million of new capital in 1956, although it "has not yet decided what form the financing will take.

The money will pay part of next year's $125 million construction program aimed mainly at converting a larger portion of the firm's telephone system to dial operation. Particular emphasis will be put on converting more of the nearly 600,000 telephones acquired from Gary that now are only 66% dial operated compared to 80% for General Telephone. Next year, the company also expects to add more than 200,000 new subscribers up from 175,000 gained this year. This will boost the firm's overall number of telephones to 2,700,000 or about 4% of the nation's total.

Besides the $125 million new building budget slated for 1956, General Telephone intends to start construction on a multimillion dollar plant to rehouse the Automatic Electric Co. — acquired through the Gary merger. New factory will employ more than 6,000 people and be built on land recently purchased outside Chicago — (*For complete story see page 64 of this issue*).

REA REPORTS ON LOANS

By end of October, the Rural Electrification Administration had issued $26,104,000 in telephone loan allocations during the first third of the current fiscal year, about half the amount for all of the previous fiscal year. Since the start of the program, cumulative loan allocations, with rescissions deducted, amounted to $259,824,542 to 388 borrowers, of which sum $116,574,456 had been actually advanced. As of Nov. 4, there were 149 applications on hand, requesting a total of $52,856,500.

REA ALLOCATIONS

The Home Tel. Co., Inc., Moncks Corner, S. C., has received Rural Electrification Administration approval for a $460,000 loan to finance an improvement and extension program. The company will furnish dial service to 515 subscribers now without telephones. New facilities will include 182 miles of line and an additional dial central office at Jamestown, S. C. The company now provides dial service to 685 subscribers over 108 miles of line.

A first loan of $400,000 has been approved for the Southern Tel. Co., Brooklyn, Mich., which now has 700 subscribers and hopes to serve 1264 after the REA-financed construction. Operating in three counties, the company will have a new dial central office at Brooklyn and 146 miles of line when it completes the project.

UNITED BOOSTS INCOME

United Utilities, Inc., and its subsidiary companies had consolidated gross operating revenues for the first nine months of 1955 of $20,474,237, compared with $18,077,857 for the same period of 1954, it was reported last month by President Alden L. Hart. Consolidated net income for the nine-month period of this year totaled $1,922,713, against $1,624,492 for the first nine months of 1954. Consolidated net income for the 12 months ended Sept. 30, 1955, amounted to $2,466,429, compared with $2,096,296 for the earlier year-long period.

Telephones served by the operating subsidiaries on Sept. 30, 1955, totaled 372,983, including 14,941 subscriber-owned, a gain of 14,770 for the nine-month period, or 4.1%.

FASTER SERVICE

As the scope of long distance dialing continues to widen throughout the country, A.T.&T., Long Lines is changing its circuits over to a plan designed to ensure fast, dependable service. This plan — called "high usage-final" — is centered around the automatic alternate routing feature of dial switching systems whereby a call can be automatically offered to other routes if the circuits in the first one are busy. By making rearrangements in circuit facilities, a majority of the circuit groups can be provided on a high usage basis and part of the traffic overflowed automatically to large final

INDUSTRY NEWSLETTER

(Concluded From Page 9)

groups engineered so that few calls will encounter a delay. Since all the circuits are thus used at high efficiency, it is possible to make a more economical provision of facilities.

By the end of this year, 20 per cent of the layout — or about 10,000 circuits — will be covered by the plan. It is expected that this figure will be doubled by the close of 1956.

"EXPENSE SAVER"

In a move which would save substantial amounts of accounting expense for class A and B telephone companies and simplify accounting procedures, the FCC has proposed rule-making under which the cost of jobs with authorized gross construction expenditures of under $10,000 would be charged directly to account 100.1, telephone plant in service. At present, such jobs are charged initially to account 100.2, telephone plant under construction, unless they are to be completed in less than two months. Upon completion, they then are placed in the telephone plant in service account. The FCC asked that interested parties submit comments on the proposal by Jan. 3.

TOLL COMPENSATION

Ground work on first Bell System-Independent toll compensation pattern based on detailed studies of the Independents' cost of handling interchanged long distance business has been virtually completed. Cost curves based on a study of hundreds of Independent exchanges were mailed last month to Bell System companies and the US Independent Telephone Association's Toll Compensation & Settlements Committee.

A. W. Lambert, vice president of the West Coast Tel. Co., Everett, Wash., and chairman of the sub-committee handling the A and B studies, reported last month that the sub-committee sought out the facts regarding Independent's costs without regard to the ultimate results of the study and that no estimate of how much change in compensation might result is possible at this time.

It is understood the resulting nationwide pattern will not prejudice any separate cost studies made by any Independents but will set up patterns for acceptance by companies which wish to accept them. The schedules will be established on a suggested basis.

Industry representatives hope a method of continuing cost analysis can be accomplished so settlement arrangements with the Bell System can be kept current with the cost picture thereby overcoming what is commonly termed "settlement lag."

MINNESOTA RATES

Minnesota Railway & Warehouse Commission last month turned on the green light for an expedited arrangement to handle rate cases on an ex-parte basis (without hearing) to recover the cumulative effect of the Amendment to the Fair Labor Standards Act boosting the minimum hourly wage from the present 75¢ to $1, effective March 1, 1956.

According to Keith W. Vogt, sec.-treas., Minnesota Tel. Assoc., the plan is a "make whole special arrangement to recoup only the cumulative wage change in operations caused by the boost to $1. If a company's present pattern of rates and present level of revenue, as measured by present level of operating costs, is only producing a net return of 4.9% per year and by March 1, 1956 the $1 minimum together with other proportionate, necessary wage adjustments to maintain existing differentials to job classes, sags this return to, say, 3.9% annualized, the company can apply for only the difference in rate to produce the present 4.9%, under the special arrangement. Anything more, such as bringing the return to 5.9% or 6%, must be a full-fledged rate case as usual, with a hearing.

SOLD ON THE FLOOR

Last Month A.T.&T. took a block of 3,303 convertible debentures onto the floor of the New York Stock Exchange. The debentures, with a face value of $1,000 apiece and due in 1967, were bought in less than 15 minutes by 24 brokers acting for customers who paid $1,303.75 for each one. Exchange officials called the floor sale ". . . one of the occasions when new capital was raised directly through the facilities of the exchange."

PROPERTY TRANSFERS

Southwestern Bell Tel. Co. purchased Mijo Co-op Tel. Co., Stilwell, Kans. and Westminister Tel. Co., Mustang, Okla. . . . Craw-Kan Tel. Assoc., Girard, Kans., purchased Weir City Tel. Co., Weir, Kans. . . . Orpheus A. Hutts sold Stotts City (Mo.) Tel. Exchange to Stotts City Tel. Co. . . . Illinois Bell Tel. Co. purchased Fowler (Ill.) Central Tel. Exchange . . . Carroll C. Arvig purchased Waubun (Minn.) Tel. Exchange . . . Evald S. Elg purchased Finlayson (Minn.) Tel. Co. . . . J. Max Osborn purchased Eastside Tel. Corp., Isle & Malmo, Minn. . . . Lewis (Kans.) Tel. Exchange purchased Edwards County Mutual Tel. Co.

HIGHLIGHTS

Bellamy Tel. Co., Knoxville, Ia., requested FCC authority to install a 25-unit mobile radiotelephone system . . . Chesapeake & Potomac Tel. Co. of Baltimore City will change its name to Chesapeake & Potomac Tel. Co. of Maryland effective Jan. 3 . . . A.T.&T. board declared company's 139th consecutive quarterly dividend at the $9. annual rate. Dividend, payable Jan. 10, will go to about 1,385,000 shareowners . . . General Tel. Co. of the Northwest converted its exchange at Deary, Ida. to dial operation. Deary exchange was General's last remaining magneto exchange in Idaho.

Now here's one from Stromberg-Carlson...

Better—as you'd expect!

HANDS FREE TELEPHONE

Telephones (or other devices) which provide two-way conversation even when both your hands are busy, aren't new. But there's a mighty good reason why Stromberg-Carlson has waited until now to market a *Hands-Free* 'phone.

With the purpose of making a completely improved *Hands-Free*, we've been studying and eliminating "bugs" which we found in existing instruments. We now offer a loudspeaking-or-conventional telephone we know is superior in every way. Busy housewives will bless it . . . modern-minded executives will see its efficiency on sight.

A few of our exclusive advantages are shown here. Ask your nearest sales office to tell you all about this remarkable new product. Finished in modern office gray, it's designed, like all Stromberg-Carlson equipment for subscriber use, to make *extra revenue* for you!

STROMBERG-CARLSON COMPANY

A DIVISION OF GENERAL DYNAMICS CORPORATION

Rochester 3, N.Y.

1. To put this two-piece instrument into operation requires only connection of the line cord, plug-in to a 110-volt AC outlet and attachment of the mike cord. 15 minutes: Some designs take 3 to 4 hours to install.

2. This microphone is separate, not built into a heavy, hard-to-move instrument. Can be placed anywhere convenient, has 12 ft. cord, and it is non-directional; works from side, rear, front.

3. The Stromberg-Carlson *Hands-Free* telephone has AVC*. If a subscriber uses the mike too close to his mouth, the instrument automatically compensates to prevent the usual unpleasant "boom." And there's almost complete absence of coupling.

4. The *Hands-Free* telephone can be used as a conventional instrument, simply by lifting the handset. And it is easily switched back and forth between conventional and loudspeaking operation.

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College of Engineering,
Professor Emeritus of English.

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This practical guidebook takes up scores of specific points in the design and composition of the report and gives you exact directions for the setup of both long- and short-form reports, with numerous examples to guide you. In addition, the book outlines a system for the critical examination of the report to help you make sure it will meet the requirements of those who will read and use it.

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Written in a light style, this is just the book for those who never got beyond arithmetic and now wish an introduction to more advanced mathematics in convenient self-study form; and for those whose acquaintance with algebra or trigonometry is slight and who wish to review and then proceed to calculus and number theory.

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Professors of Mathematics
Texas Technological College

2nd Edition, 336 pages, 6 x 9, $5.50

This popular book provides not only a thorough course in algebra, but also a survey of the mathematical highlights of trigonometry, analytic geometry and more advanced algebra and calculus — all written in a practical, interesting, and oftentimes humorous manner. Included are discussions of variables and extended analytic geometry.

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ACROSS THE EDITOR'S DESK

Happy Holidays

THE STAFF joins me in all best wishes for *A Happy Holiday Season.* We wish all of you *Health, Happiness* and *Tranquillity* for this Christmas Season. Our front cover is in tune with the Season.

■ ■ ■

Southern Trip

THANKS TO all the nice folks in the Southeast for their warm hospitality while we were visiting several of their conventions. Alabama association president *W. F. (Bill) Corman,* who is quite familiar to our readers as author of *Small Company Talk,* made us quite at home when we dropped by to attend their excellent meeting. *Jo Poppleton,* secretary of the Florida association, is always a wonderful hostess and was rewarded this year with an attendance record that broke all former records.

■ ■ ■

Post-Convention Meeting

WE ALSO WISH to thank the *Carl Broreins, Sr.* and *Jr.* for the post convention Conference they sponsored on the West Coast following the regular sessions held at Daytona Beach. It was very educational and enjoyable. The only incidents that marred our trip was the serious illness of *Grogan Shelor,* Automatic's Florida representative, and the emergency operation at a Daytona Hospital of General Cable's *Keith Davis.* At this writing both of these genial gentlemen are convalescing nicely. We enjoyed a wonderful Thanksgiving in Florida for our first time.

■ ■ ■

Alabama Story

WE HAVE BEFORE us the November 10 issue of the *East End News,* a newspaper published in Birmingham, Ala. and in scanning it were surprised to find it contained mostly information and highlights of the Trussville Telephone Co. Our congratulations to *William T. Fields,* president of the company and his several brothers who operate the company. If all companies handled their public relations as well as the Fields we are sure they would have far less trouble when time came to adjust rates.

■ ■ ■

New Features

LETTERS FROM readers are always interesting and we find many magazines carry a *Letters Column* in each issue. Turn to page 18 of this issue to what we hope will be a continuing feature in each issue. Writing the letters is up to you however, so we will have to depend upon you to continue writing us your opinions, questions and comments. We hope you will also read pages 96 and 97 in regard to a new feature we will start during 1956 in the way of an Operating Manual that we hope later to incorporate in a book for ready reference. Here is a chance to write us if you would be interested in books of this nature with separate titles for Management, Supervision and Traffic Training.

■ ■ ■

Good Reading

WHILE WE ARE referring you to items in this issue we suggest you read the article titled "Step-By-Step-Selling" by *Walter G. Wright,* president of the General Telephone Company of the Southwest, San Angelo, Texas. Mr. Wright is known nationally in our industry and this selling article of his might have a lot of meaning to you in your own merchandising programs.

■ ■ ■

Happy New Year!

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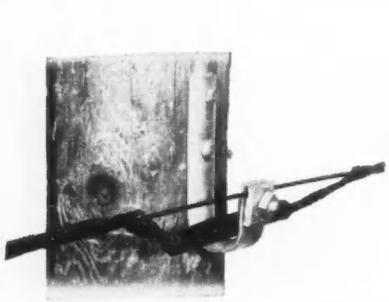
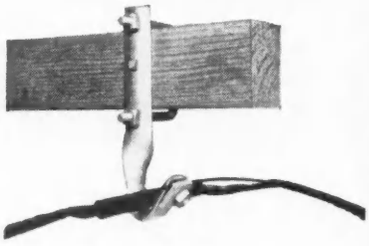
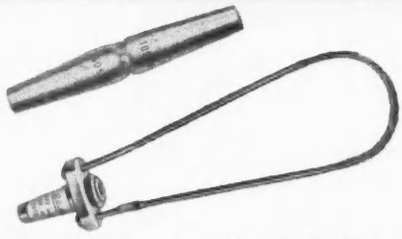




As shown in these views, the "secret" of Rural Distribution Wire is in its high-strength steel core (1800 pounds test). This carries the load, and is readily attached to the pole or crossarm brackets shown above. The "B" bracket is used for attaching directly to the pole; the "C" bracket is used when attaching beneath crossarms.



For Splicing and Dead Ending Steel Core

Jaws of steel in the Wirelink (top) splice the wire core in a never-relaxing grip. Merely insert the wires in the ends 'til you hear a click.

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Photo courtesy of
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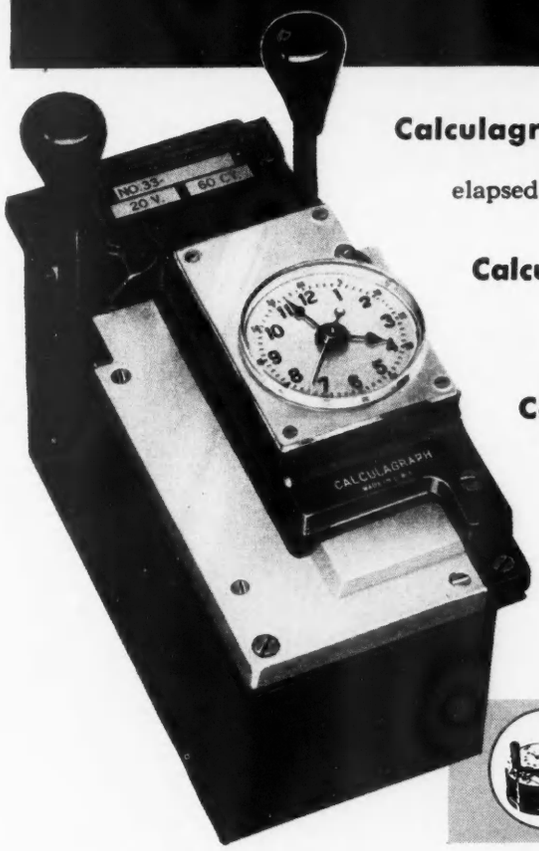

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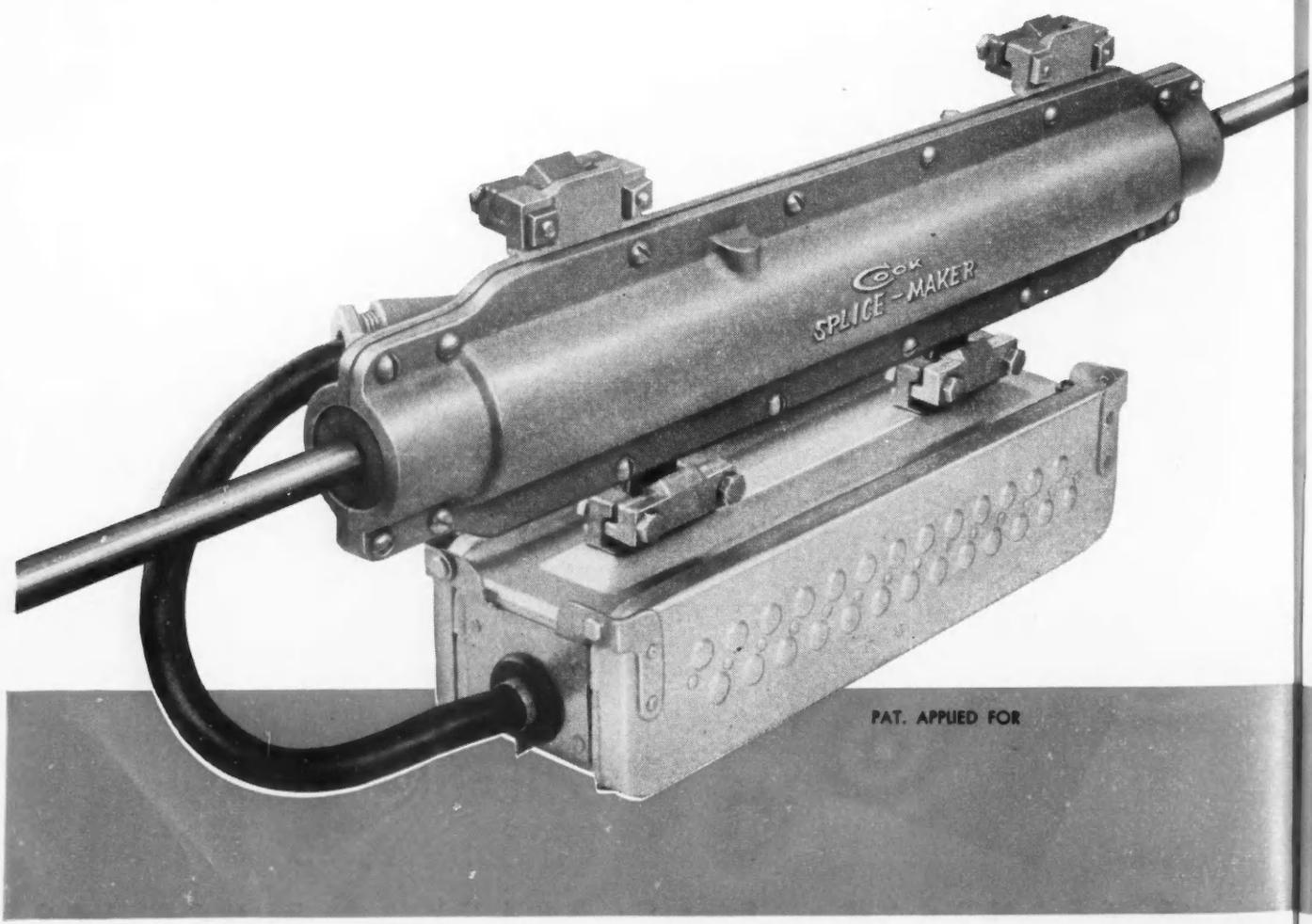
The New

Splice Maker Stranterm by Cook

ANOTHER FIRST by Cook. Now it is possible to splice in a cable stub with the "Easy to **RIG-PACK-ASSEMBLE-AND SEAL**" Splice Maker and terminate the subscriber drops on the messenger in one operation. By combining the new Splice Maker and Stranterm into one messenger mounted assembly, a workmanlike termination of subscriber drops from distribution cable is now economical, permanent, trouble free and flexible in its application.



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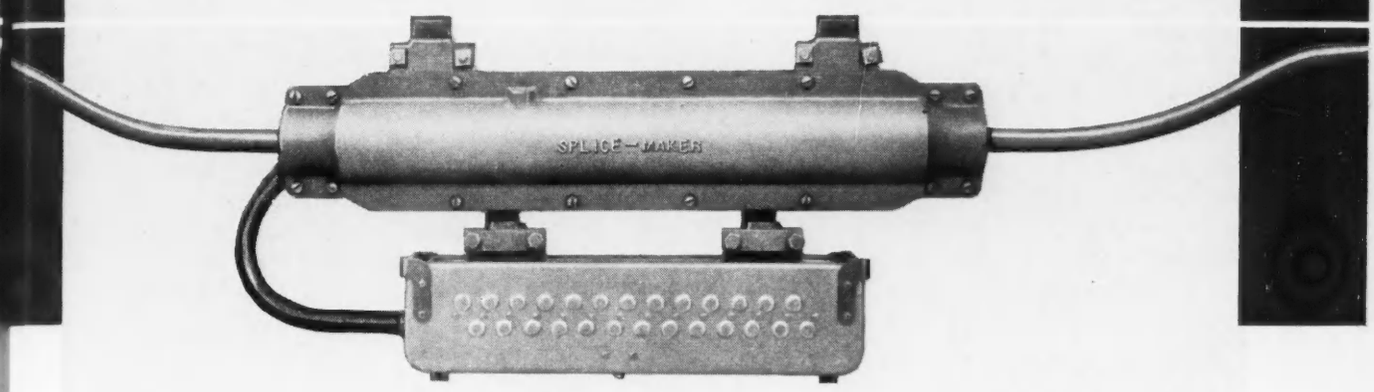
For Economical Convenient Outside Construction



This combination will accommodate distribution cable from 11 to 101 pair (¼" to 1" dia.) and subscriber drops up to 26 pairs. Protection is optional "by the pair" with Cook Minigap dischargers.

So for the first time this "do it yourself" type of cable splicer makes it possible to splice and terminate more economically and in one operation.

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LETTERS

"We Like Her, Too!"

To THE EDITOR: — This is to report to you that we are continuing to use *Miss Richards'* articles *"Guide For Training Traffic Employes"* as written in your publication, TELEPHONE ENGINEER & MANAGEMENT and our Chief Operators and their Service Assistants have found them to be very useful and interesting . . . .

BURTON BROWN,
General Traffic Manager,
Florida Tel. Corp.,
Leesburg, Fla.

* * *

"Thanks, Mr. Moore"

To THE EDITOR: — We who are in the telephone business outside the continental United States, must continually depend on literature and magazines of the caliber of the "TELEPHONE ENGINEER & MANAGEMENT" to keep abreast of the new material and equipment being developed continually in the United States . . . .

I enjoy Mr. Jay G. Mitchell's "Questions and Answers" article, but wish it was somewhat longer.

The "1955 Catalog-Directory" was an outstanding issue, and I hope the 1956 issue will also include such articles as "Financing Expansion and Improvements." "Merchandising" and others, preferably on the technical end of telephony, such as Carrier, Microwave, Toll cables, etc.

I read the advertisements in the catalog directory and have written to various firms.

THOMAS D. MOORE,
Telephone Specialist
Signal Office
APO 851-A, New York, N. Y.

* * *

"They're On The Way"

To THE EDITOR: — I would appreciate very much if I could have about 200 reprints of the address of Clyde W. Haas — "The Association — What It Means To Me," delivered before the convention of the Rocky Mountain Telephone Association.

J. B. HALEY,
Executive Secretary,
Texas Telephone Association,
Austin 1, Texas.

* * *

"Permission Granted"

To THE EDITOR: — In the August, 1955, TELEPHONE ENGINEER & MANAGEMENT you ran a story entitled "Message from New Hampshire." The story was printed in the "Back Of The Book" section on page 102.

As we are in the process of a fairly extensive conversion program, we would like a complete reprint of this story to run in some of our local papers. I am sure it would be greatly appreciated by our subscribers.

P. RYAN,
Sales Representative,
Northern Tel. Co., Ltd.,
Ontario, Canada.

* * *

"Knows His Stuff"

To THE EDITOR: — Being a newcomer to telephone work, I was impressed by Mr. Reed's article in the July 1954 FORTNIGHTLY TELEPHONE ENGINEER on using the "Dial Hand Test Set." Using this as a base, I think Mr. Reed has a very thorough working knowledge of the telephone field.

My intentions are to buy the best books available, covering the field of telephony from the first, simple theory to the latest dial stations being installed. It is simple enough to stumble along, learning by experience. I want to study thoroughly, and learn as I work. Would you please advise me accordingly? Is it possible to obtain what might be called a "telephone encyclopedia?" My work is on rural lines, old-time magneto telephones, and switchboards. These cause endless troubles. Surely there are practical methods for checking and repairing lines and telephones. Any data would be greatly appreciated.

RAY FISHER,
Dixon, Iowa

Your letter warmed up our office on a cold Chicago day. We've forwarded it to John Reed and you'll be hearing from him. Your plan to "study thoroughly and learn as you work" is commendable. We're sending you a file of material — hope you find it useful.—THE EDITORS.

* * *

"Thanks, Mr. Messecar!"

To THE EDITOR: — We would like to express to you our appreciation for the *Traffic Articles* prepared by *Miss Ruth Richards.*

We have clipped these articles and are using them as a ready reference in our offices and the same request is made to the Chief Operators of the different exchanges. Also they are asked to review the articles as published.

It is our hope that you will set these articles up in pamphlet form so that they will be available for training purposes.

F. E. MESSECAR,
Vice President,
Oklahoma Tel. Co.,
Broken Arrow, Okla.

* * *

"Welcome Back"

To THE EDITOR: — Having been a previous subscriber to your valued publication "Telephone Engineer & Management," I would like to pick up your publication again starting with your January edition, if possible.

Having been a bi-state resident for the past five years, my mailing addresses took a few decided changes, therefore, I had to discontinue my subscription.

If you will start me off again, I will apreciate same, and if I have missed anything important, let me know.

CHARLES J. BROWN.
West New York, N. J.

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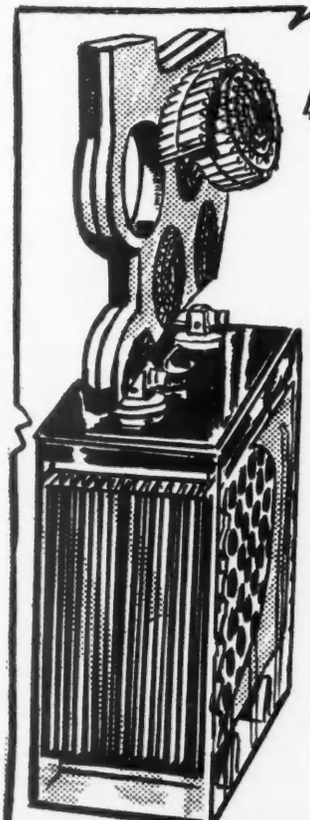

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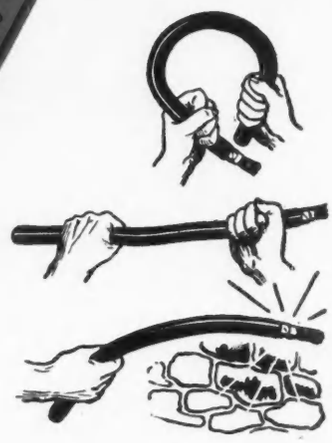
"NOT EVEN A CRACK APPEARED...

it was 48 degrees below zero and



I TURNED it

I TWISTED it

I BANGED it against a wall"

This is what Wire Chief, **Harry Reimer** reports about

ANSONIA Ankoseal®

THE *first* ALL-PLASTIC CABLE

Mr. Harry Reimer, who carried out the rugged test described at the right, is Wire Chief of the Municipal Utilities System of the City of Fairbanks, Alaska.

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"I gave it (Ankoseal) a rugged test. The cable was placed outdoors until the temperature hit –48 degrees. I then tried my best to break or crack the cable by every conceivable means. It was turned, twisted and even hit against a block wall. After this treatment, I inspected the cable and found no crack in the outer jacket nor were any of the conductors injured. I convinced myself that if this cable could stand such treatment at –48 degrees, it certainly will stand the test hanging on the poles at –60 degrees.

***ANKOSEAL CABLE** is sold to independent telephone companies through authorized Telephone Supply Distributors only.*

THE ANSONIA WIRE & CABLE COMPANY

ANSONIA, CONNECTICUT Phone REGENT 4-3306

MANAGEMENT NEWSLETTER

SMOOTH SAILING

"Best Business Year In History," headlines the US Chamber of Commerce as the 4th quarter draws to a close. Reasons: consumer spending — which will make '55 a record year — has been running far ahead of '54. Holiday buying is forecast at new highs. Consumer psychology, despite dampening by Ike's illness, continues healthy because of low unemployment and the higher wage trend. Prices are firm and advancing slightly.

The three props on which U.S. economy rests — steel, autos and construction — show continuing signs of being strong supports. Steel is at 97 per cent of capacity with 115 millions sold this year compared to 111.6 last year. Phenomenal auto production has contributed its strength to the economy and its weakness — some feel — to our debt structure.

Construction will hit $41-billion this year compared to $37.6-billion in '54. The housing segment of this industry rebounded in August after a July slump. 8,000 more homes were built in August than in July to add to the year's total which is expected to be around 1,300,000.

As a whole things look good. More goods are being shipped, more orders are being booked, backlogs are, in many cases, rising. All manufacturers, for example have shipped goods valued at $17-billion more this year than last. Eating up this production are consumers with estimated disposable incomes of over $273-billion compared to around $258-billion in '54.

Economists say the challenge of the coming year will be to consolidate the gains of '55 and to strive and better this year's booming business. Favorable factors of '55, some expect, will continue into '56. Part of the challenge lies in the fact that it's been estimated that a tiny two per cent increase in spending by American consumers would add $5 billion more to this country's total demand for goods and services.

NEWS IN THE MAKING

You'll be hearing more about excise tax relief. Don't expect a reduction in the rates. Relief will come as a result of Congressional cleanup job aimed at eliminating inequalities and useless administrative red tape. Congressional leaders believe complete overhaul job on excise taxes will please businessmen and be less costly for the government than excise tax reductions.

Short supply in lead developed last month and is expected to continue into '56. Reports from trade sources indicate shortage is serious. In order to fill contracts with consumers some lead producers have been forced to buy the metal.

Copper men are looking forward to '56. The reason — outlook for improved supplies of copper for early next year is good. Barring strikes or other disruptions, copper trade authorities believe a consumption-supply balance may be reached in 1st quarter of new year.

You'll be hearing more about automation's impact on nation's economy. A three-man Labor Department staff, studying effects on employment, productivity, working conditions, aims to add two more company case studies by mid-1956 to two just completed. The department will seek funds next year to double or triple the automation staff.

The labor supply is going to get tighter in many areas during the next few months according to U. S. Labor Department's bi-monthly survey of the job situation in 149 major employment areas and many smaller areas, unemployed skilled workers particularly are going to become scarcer during early part of 1956.

Farm foreclosures are creeping upward. Real estate experts say over 10,000 farms may be turned over to creditors in the year ending next Mar. 15, up from 9,800 a year earlier. Persistent drought in the Great Plains is the chief reason for the boost. Though nearly double the 5,800 in 1946, foreclosures are still very low; in 1932, some 223,000 farms were turned over to mortgage holders.

Tax men say revisions in the 1954 Tax Code will cover many minor technical points. However, some big items will be included. Substitutes for the repealed Sections 462 and 452, which allowed reserves for estimated expenses and deferrals of prepaid income, appear possible. One compromise possibility: Spread deductions for estimated expenses over, say, a five-year period to cut the Treasury's revenue loss. Loss carry-overs by business may also come in for consideration. Under

MANAGEMENT NEWSLETTER

(Concluded From Page 21)

Section 382 of the Code a corporation entitled to carry over net operating losses loses that right if its ownership changes by 50 percentage points and the nature of the business changes too. The 85% tax credit corporations now receive on dividend income from other corporations would be increased to 100% under another proposed revision.

More stock splits are in the offing. The record number of stock splits during 1955 demonstrates the desire of corporate managements to facilitate the broadening of stock ownership. Stock splits, which bring down the price of popular issues to levels favored by smaller investors, attract numerous new investors to the equities affected.

There will be more rumors of A. T. & T. stock split. Last month some forecasters bluntly stated "day was near." However, some believe A.T.&.T.'s stability of earnings and dividends and a very successful stockholder relations program have achieved the same results for its high-priced issue that other companies seek through stock splits. They say: — "So long as smaller stockholders continue to favor A.T.&.T. in such large numbers, there is no convincing reason to change the company's capital structure. Should resistance develop among smaller investors to buying the stock because of its price range, it will be time enough for management to consider a split."

DEPRECIATION RATES

Plans for installation of a completely new type of fully-transistorized electronic telephone central office switching equipment, starting in 1960, will shorten the service lives of existing electro-mechanical systems and must be considered in establishing new depreciation rates for Bell System companies, the FCC stated Nov. 30 in prescribing revised depreciation charges for three companies. The Commission said that higher depreciation allowances approved for the Michigan Bell, Northwestern Bell, and Ohio Bell Telephone Co's. were based substantially on early replacement of older dial switching units with more modern electro-mechanical types in the immediate future, but that consideration also was given to the longer-range plans for the electronic system.

The companies were ordered to file annually schedules of estimated replacements of present dial central office facilities by electronic switching to keep the Commission abreast of the latest developments and progress, the FCC said. At the automation hearings in Washington in late October before a Joint (Congressional) Committee on the Economic Report subcommittee, Michigan Bell Tel. Co. President C. W. Phalen said that "Awaiting its first installation, possibly in 1958, is an entirely new dial switching system which, unlike our present dial equipment, will make little or no use of electro-mechanical switches. Instead, transistors and other electronic gear will provide the nerve system and direct the switching of calls."

THINGS TO WRITE FOR

Looking for an employe sales booster? If you're interested in developing a sales contest to spur sales of telephone services, write Prize House, 516 W. 34th St., New York, N. Y. Ask for free copy of 88-page catalog containing pictures and descriptions of nearly 1,700 prizes.

Write Small Business Administration, Lafayette Bldg., Washington, D.C., for your free copy of leaflet No. 65 — "How The Securities Act of 1933 Affects Small Businesses." Leaflet is packed with data on obtaining operating capital.

Next April you'll need this book — "Your Federal Income Tax, 1955." Booklet costs 25 cents; may be obtained from U.S. Government Printing Office, Div'n of Public Documents, Washington 25, D.C.

This pamphlet asserts that the way to develop executives is to encourage talent and develop responsibility. Titled, "Let's Develop Better Men," the pamphlet is available for 15 cents from Tri-State Offset Co., 817 Main St., Cincinnati 2, Ohio.

MANAGEMENT BOOKSHELF

Latest additions to our list of books deserving working spot on desks and bookshelves of industry's management people include the following:

"Records Management & Filing Operations," by Morgan K. Odell and Earl P. Strong. 342 pages; 6 x 9; 142 illustrations. This book clearly demonstrates how a centralized control over all records helps prevent duplication of effort and increases record-keeping efficiency. It tells how to set up a record management department for streamlined coordination covering every detail of your filing system, from its integral organization through each specific operation. $5.50

"Technical Speller," by G. G. Hawley. A quick convenient guide to thousands of difficult technical words. $2.95

"Third Small Business Case Book," describes 27 actual cases (fictitious names used) that typify problems facing small business operators. Case studies for classroom use including business analysis and corrective problems in a wide variety of business management functions. Questions at end of each case. Order from *Bureau of Business Research, School of Business Administration, University of Michigan, Ann Arbor, Mich.* 287 pp. $2.00

"Best Operating Insurance Money Can Buy"

America's Finest!
GOULD PLANTÉ
The Aristocrat of
Stationary Batteries

When you buy a Gould Research-Built Battery, you not only get the finest battery modern science can give you . . . you get also the finest, nation-wide field engineering service in the industry.

Strategically located in all principal cities, Gould Field Engineers are as near to you as your telephone . . . ready to help you get greatest possible service from your batteries and keep your facilities in operation. Through educational work with your maintenance staff, advice on selection and anticipation of battery needs and actual emergency servicing of batteries, your Gould Field Engineer is perfect operating insurance.

Call him in. You'll find it the best move you ever made. Don't forget to ask him for the new Gould Plus-Performance Plan material for your maintenance staff.

Always Use Gould-National Automobile and Truck Batteries

GOULD
Batteries

GOULD-NATIONAL BATTERIES, INC.
TRENTON 7, N. J.

"BETTER BATTERIES THROUGH RESEARCH"

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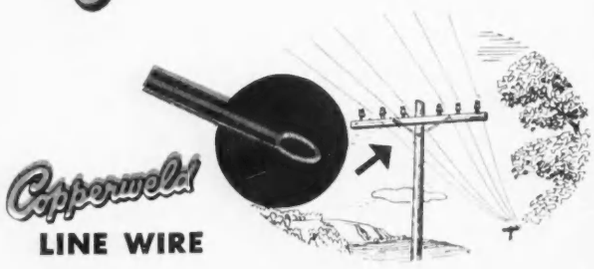
Go Copperweld

TRADE MARK

ALL ALONG THE LINE

Performance UP

Maintenance DOWN



Copperweld LINE WIRE

Copperweld* "talks better" than any other high-strength conductor. It's strong, non-rusting, light in weight. Economical and easy to string, it's unequaled for long-life, long-span construction. Use .080"-30 E.H.S. for short subscriber loops and secondary toll lines—and .104"-40 H.S. for toll lines and long subscriber loops.

*Trade Mark

Copperweld GRIP-FLEX TIES

The preformed Copperweld Grip-Flex Tie assures uniformity of construction—reinforces the conductor over the entire length of the tie—and prevents chafing of conductors. It's strong, non-rusting, simple in design, easy and inexpensive to apply. Grip-Flex Ties are made for line wire sizes from .080" to .165".

Copperweld DROP WIRE

With a breaking strength of 400 pounds for the pair, No. 18 Copperweld is the strongest drop wire made. This greater strength means greater mechanical safety—provides the added stamina to withstand heavy ice and wind loads. And its uniform copper covering assures excellent conductivity and rust resistance.

Copperweld GUY STRAND

These non-rusting Copperweld Guys match the life of the line, while rustable guys invite replacement costs. Use 3 No. 8 Copperweld for 6M breaking loads, 3 No. 10 for 4M, and 3 No. 12 for 2.2M. Easy to handle, these lifetime Copperweld Guys cost little more than rustable guys of comparable strengths.

Copperweld Telephone Products—

Stocked and Sold by

Leading Distributors

Copperweld GROUND RODS AND CLAMPS

For permanent grounding protection at lowest annual cost, insist on Copperweld—the only ground rod with a thick copper covering inseparably Molten Welded to a strong steel core. It provides stiffness for easy driving and rust resistance for long life. Copper-to-copper contacts throughout assure low resistance.

Copperweld

1955--our 40th year

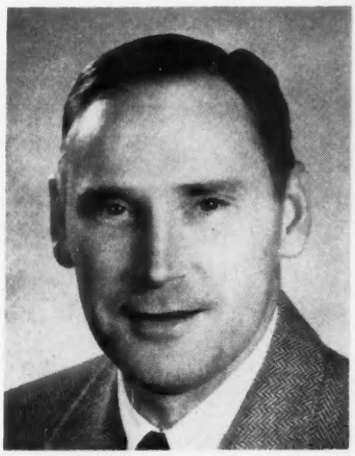
COPPERWELD STEEL COMPANY

WIRE AND CABLE DIVISION, *Glassport, Pa.*

For Export: COPPERWELD STEEL INTERNATIONAL COMPANY, New York

TELE-VIEWS

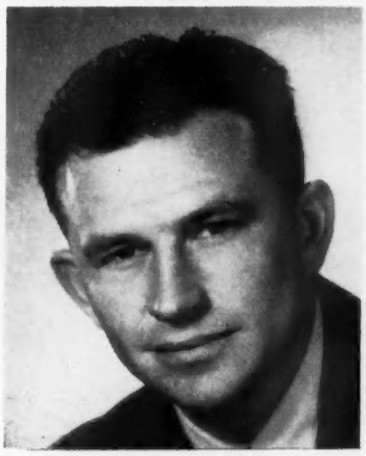
Bersted Joins Automatic Electric



Howard Bersted, formerly sales promotion manager, Leich Sales Corp., Chicago, has been named director of publicity of Automatic Electric Co. In his new position, Mr. Bersted will have overall supervision of the company's advertising programs and related activities.

Mr. Bersted joined Leich Electric in 1946 as advertising manager after wide experience in the industrial advertising and advertising agency fields. He was promoted to sales promotion manager in 1954.

New Vice Pres.



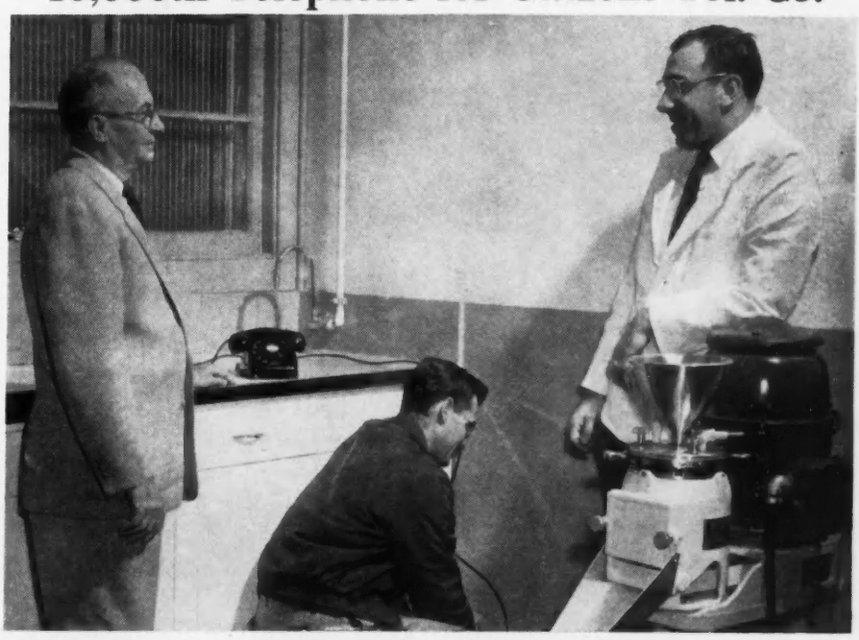
WILLIAM H. HEFLIN has been elected vice president and general manager of Lenkurt Electric Co. of Canada, Ltd.

The 700,000th Telephone For You, Mrs. Lee

General Telephone Co. of Calif.'s Executive Vice President, **Harlan W. Holmwood,** presents the company's 700,000th telephone to **Mrs. Kathleen Lee** and daughter, **Patty,** of Torrance, Calif., one of the 100 communities the company serves in Southern California.

This 700,000th installation represents an increase of about 320,000 in total company telephones since the beginning of 1950, according to Holmwood. To provide facilities to serve the increasing population in its 4,300 square mile area, General of California has increased its investment in plant from about $75,000,000 to nearly $225,000,000 since the first of 1950, and is continuing to expand its facilities at the rate of about $2,500,000 each month.

40,000th Telephone for Citizens Tel. Co.

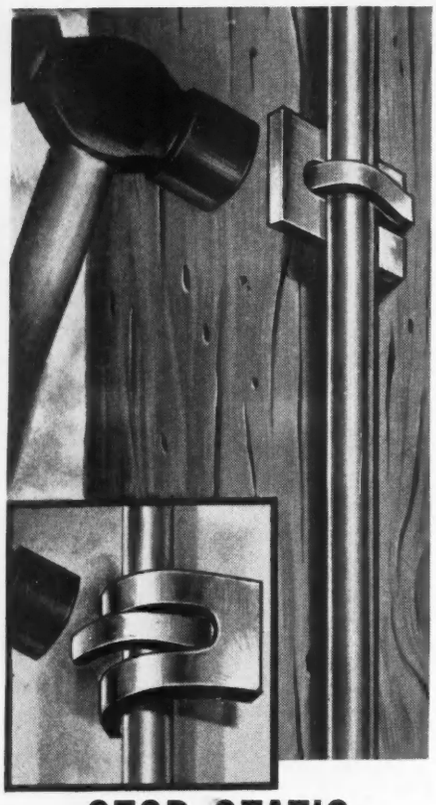


The Citizens Independent Tel. Co. installed its 40,000th telephone, during the month of Oct. 1955, in the Research & Development Center of Charles Pfizer & Co., Terre Haute, Ind. Shown in the picture are (l. to r.): **O. B. Gordon,** commercial manager; **William S. Smith** of the plant department, Citizens Independent Tel. Co.; and **Joseph Aterno,** pharmaceutical chemist, Charles Pfizer & Co.

Toward all men good will

THE NORTH ELECTRIC COMPANY

Galion, Ohio.



STOP STATIC

with KEARNEY

Tight Grip

GROUND WIRE CLIPS

Save your customers annoyance . . . and save yourself trouble . . . by securing every ground wire with these non-static, never-loosening clips. Notice how easily the simple clip is locked around the ground with just a few blows of the hammer. Once this is done, the clip will remain tight around the wire *indefinitely!* Even if the clip should work loose from the wood, there's no chance of a static-causing gap between the clip and the ground wire.

For Better Construction . . . Safer Maintenance

Specify JRK-264

KEARNEY PRODUCTS

4224-42 Clayton Ave. • St. Louis 10, Mo.

Canadian Plant: Guelph, Ontario

Thoughts for Today

Collected by DICK ALLEN

Hard Work

Happiness is a rebound from hard work. One of the follies of man is to assume that he can enjoy mere emotion. As well try to eat beauty. Happiness must be tricked. She loves to see men work. She loves sweat, weariness, self-sacrifice. She will not be found in the palaces, but lurking in cornfields and factories, and hovering over littered desks. She crowns the unconscious head of the busy child.—DAVID GRAYSON.

* * *

Management

Every person engaged in a given enterprise is called upon to perform a managerial function, or at least to perform a function that is directly serving the purpose of management.—DONALDSON BROWN.

* * *

Safety Progress

You can believe that progress is being made toward cutting down on traffic accidents when you hear a knot of men at a party swapping lies and bragging about which one has the slowest, safest car.—CHICAGO DAILY NEWS.

* * *

Respect The Law

Let every man remember that to violate the law is to trample on the blood of his father, and to tear the charter of his own and his children's liberty. Let reverence for the laws be breathed by every American mother to the lisping babe that prattles on her lap; let it be written in primers, spelling books, and almanacs; let it be preached from the pulpit, proclaimed in the legislative halls, and enforced in courts of justice. In short, let it become the political religion of the nation.—ABRAHAM LINCOLN.

* * *

What Man Has

The true perfection of man lies, not in what man has, but in what man is . . . Nothing should be able to rob a man at all. What a man really has is what is in him. What is outside of him should be a matter of no importance.—OSCAR WILDE.

* * *

The Right Thing

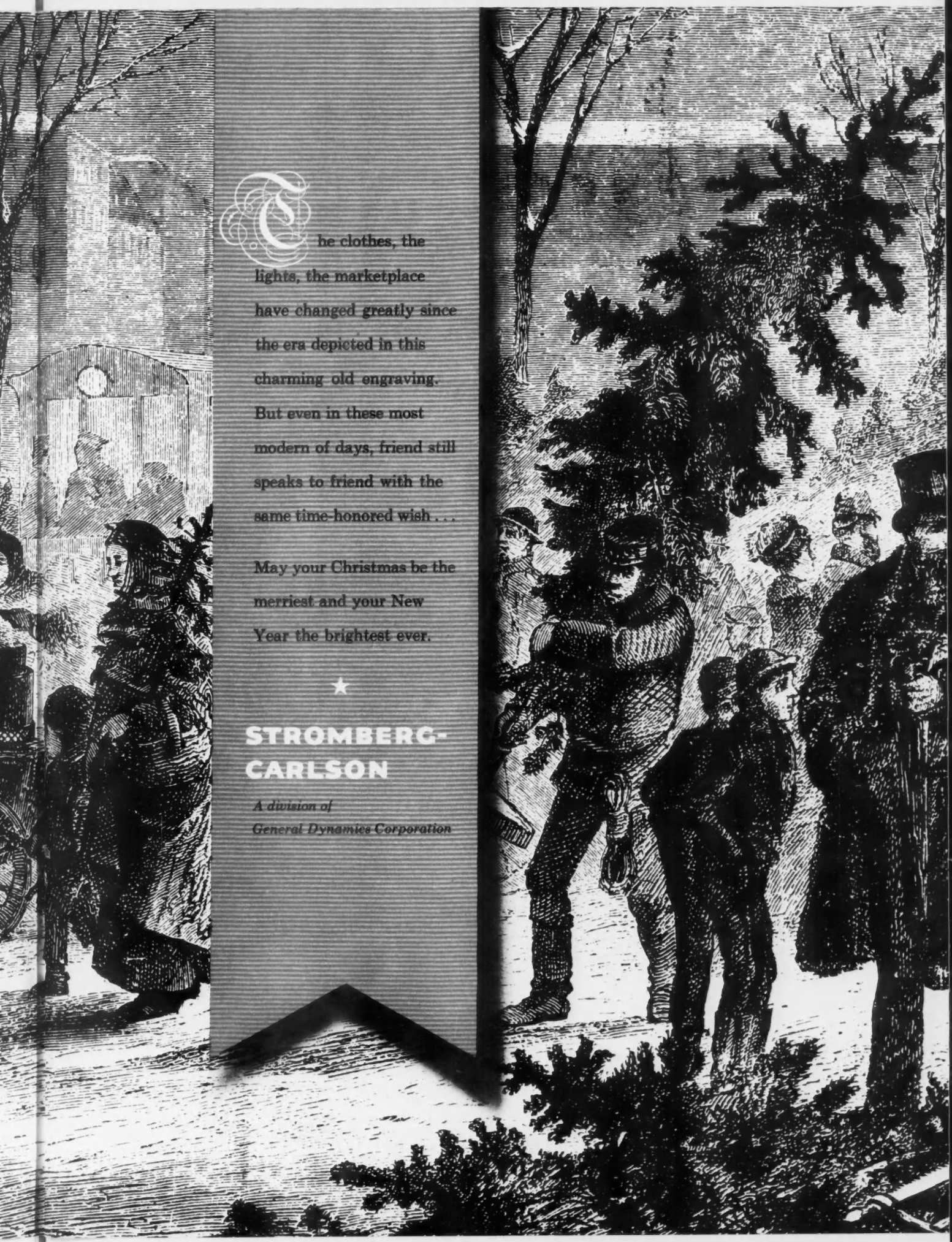
That you may retain your self-respect — it is better to displease the people by doing what you know is *right*, than to temporarily please them by doing what you know is *wrong*.—WILLIAM J. H. BOETCKER, D.D.

* * *

Loyalty

Loyalty cannot be blueprinted. It cannot be produced on an assembly line. In fact, it cannot be manufactured at all, for its origin is the human heart — the center of self-respect and human dignity. It is a force which leaps into being only when conditions are exactly right for it — and it is a force very sensitive to betrayal.—MAURICE R. FRANKS.

Season's
Greetings



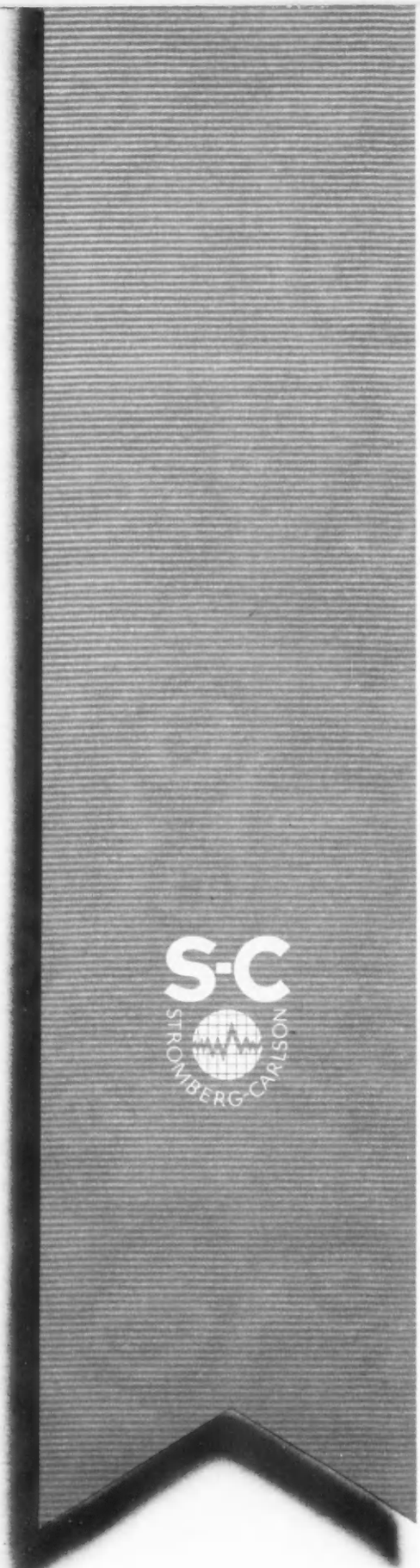
The clothes, the lights, the marketplace have changed greatly since the era depicted in this charming old engraving. But even in these most modern of days, friend still speaks to friend with the same time-honored wish . . .

May your Christmas be the merriest and your New Year the brightest ever.

★

STROMBERG-CARLSON

A division of
General Dynamics Corporation



Litho in U. S. A. GLP-21M-1255

Electric Utilities Expect 10 Fold Increase In Power Industry's Communications Needs

ELECTRIC UTILITY representatives attending the annual meeting of the Electric Power Utilities Interconnected Systems' Communications Subcommittee's Southwest Region Nov. 17-18 in Joplin, Mo., were given a comprehensive report on the status of microwave equipment and future prospects for the use of such facilities by the electric utility industry in a presentation by L. R. Vincent, of the Radio Corp. of America's Engineering Products Division.

Mr. Vincent's talk dealt with a survey carried out by RCA "nearly two years ago," one of the objects of which "was to ascertain the attitudes and opinions of electric utilities toward the use of microwave communication systems." It was discovered, he reported, that "generally the power industry is likely to require a 10-fold increase in communication facilities in the next five to 10 years."

Pointing out that the survey covered "all types of electric utility operations," Mr. Vincent reported that a "final list" of 297 electric utilities was developed as representing the market for microwave communication equipment, including 212 "business-managed," 188 "government-owned," 17 "municipal" and 50 Rural Electrification Administration co-operative utilities. There are more than 50 electric utilities now using microwave, he said.

The RCA engineer explained that the complete communications survey covered utility-owned telephone lines, leased telephone lines, power-line carrier, microwave systems, and VHF point-to-point radio, including the prevalence of interconnections of private communication systems of utilities with those of telephone companies, both for internal and toll use. He declared that at the present time, the major communication functions are being carried over power-line carrier, and in order of importance or use, communication facilities most used and required are: voice channels, telemetering, relay and transfer trip, supervisory control, load control, remote control of mobile radio, teletype and facsimile.

For voice communications, he reported, 57% of the companies surveyed are using utility-owned telephone lines; 65% are using leased telephone lines; 63% are using power-line carrier; and 16% are using microwave. The power-line carrier usage picks up in importance, the report shows, when telemetering, supervisory control, and relaying and transfer trip operations are counted.

A summary of the survey shows that about 49% of the companies polled "have a preference for owning their communication systems . . . 21% preferred to lease; . . . (and) 30% have no specific preference but usually determine on basis of cost, reliability, and availability."

Court Upholds Commission On Stock Sale Order

NORTH CAROLINA state Supreme Court has reversed decision of a state Superior Court and upheld a ruling of North Carolina Utilities Commission which had given permission to Carolina Tel. & Tel. Co. to sell

Swanson Elected Director of Va. T. & T.

VIRGINIA TEL. & TEL. Co. has announced the election of **Duane T. Swanson** as a member of the company's board of directors. He will also continue as vice president and division manager of the company with headquarters in Charlottesville, Va.

Swanson is also a vice president and division manager of Central Tel. Co., an affiliated company, operating in 11 towns in West Virginia and in 21 cities and towns in North Carolina. He is also president of Southern Tel. Co., also an affiliate. Southern Tel. is in process of constructing telephone facilities to serve rural areas of Southern Virginia.

a new stock issue, provided the price was not less than 25% above par value.

Carolina Tel. & Tel. proposed an issue of 66,640 shares, to be offered to stockholders in the ratio of two for every five now held, at $100 par value. The commission had directed a $115 price & fixed the price at not less than $125 a share. Edgecombe Superior Court Judge Q. K. Nimocks upheld the company in a ruling last May, and the commission then appealed to the state Supreme Court.

Chief Justice M. V. Barnhill, in the Supreme Court's opinion, held that the law states clearly that the commission "may grant or deny the application . . . as made or may grant it in part or deny it in part or may grant it with such modification and upon such terms as the commission may deem necessary or appropriate." At the time of the order, he said, Carolina Tel. & Tel. stock was selling on the open market at $144 a share.

Telephone Industry Opposes Finalization Of 915 MC Allocation For ISM Use

USING THE 890-940 megacycle band on a secondary basis, common carriers now have investment and commitments in the fixed services in that area of about $20,000,000, comments to the FCC pointed out last month in urging that the band be allocated for the exclusive use of common carriers, and that the Commission proposal to allocate 915 mc plus or minus 25 megacycles for industrial, scientific, and medical use be withdrawn.

Industrial heating interests commenting on the proposal, meanwhile, urged finalization of the 915 mc ISM proposal, but concentrated most of their arguments on a request that the time for filing comments in the docket be extended to next May 15 to give them more time to carry on extensive tests.

The American Telephone & Telegraph Co., US Independent Telephone Association, Rural Electrification Administration, and Lenkurt Electric Co. all emphasized that other frequencies are available for ISM purposes; that little or no ISM interest has been shown in 915 mc, allocated for the purpose but never officially listed; and that listing of the frequency in the 1947 Atlantic City tables does not mean automatically that it should be allocated for that purpose in the United States, particularly since no interference to other countries will result.

Use by common carriers of the band will be very limited if it is opened up for ISM use, the commenting parties declared, because of the provision for unlimited radiation, and expected interference. They stressed common carrier need for exclusive frequencies below 1000 mc, as exemplified in the extensive use of the band already made on a secondary and shared basis. USITA keynoted that FCC finalization of the proposal as it stands would be "deplorable."

The Society of the Plastics Industry, as well as Mann-Russell Electronics, Tacoma, Wash., which handles equipment for industrial users of dielectric high frequency heating, welcomed the extension of the comment deadline to May 15 for one item in the docket — establishment of a new rule section on industrial heating — but urged that the remainder also be deferred, except for finalization of the 915 mc allocation.

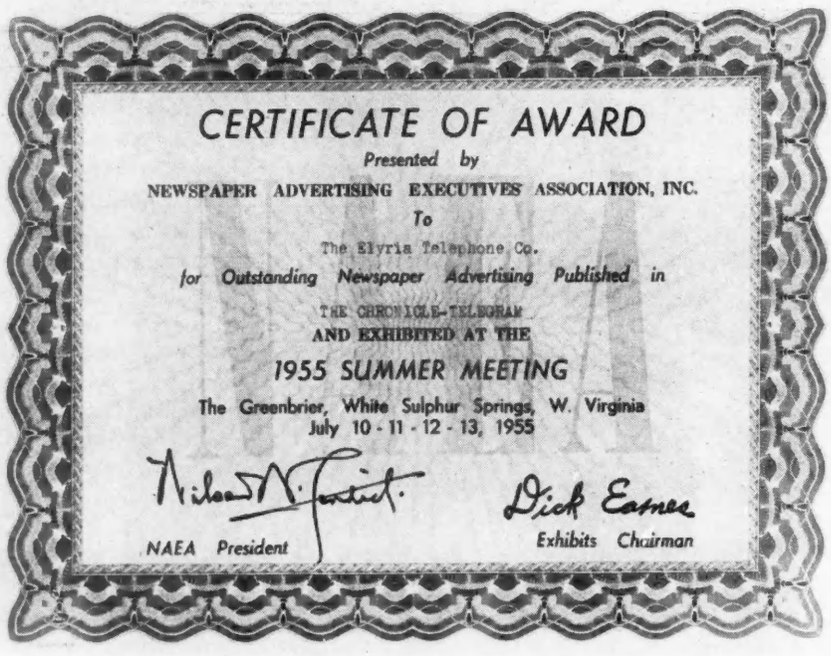
They said that their tests could provide the FCC with valuable information on such subjects as frequency tolerances permitted on the ISM frequencies, practicability of present definitions, and reasonableness of interference provisions in the rules.

Microwave To Bounce Beams Off Troposphere

LONG-DISTANCE microwave transmission, that gets past the curve of the earth by bouncing the beams off the troposphere some 80,000 feet in the air, is being developed in Canada's northland as the world's first full-scale "over-the-horizon" microwave installation.

The system will flash back pertinent information from the gigantic radar projects in the north. The bounce-beam system is so sensitive in operation that two persons a thousand miles apart can talk as though they were in the same room.

But even at that, James Fenton, assistant general manager and chief engineer of the Manitoba Telephone System, said the art still has not been



THE ELYRIA (Ohio) Telephone Co. has been cited by The Newspaper Advertising Executives' Association for the excellence of it's advertising carried in the newspapers. Proofs of the company's advertising along with those of other Elyria companies were displayed by the "Chronicle Telegram" of Elyria, at the national convention at White Sulphur Springs, W. Va., last summer. The advertisements picked are included in a "Sales and Idea Book" which is furnished to all the newspapers in the United States and Canada which are members.

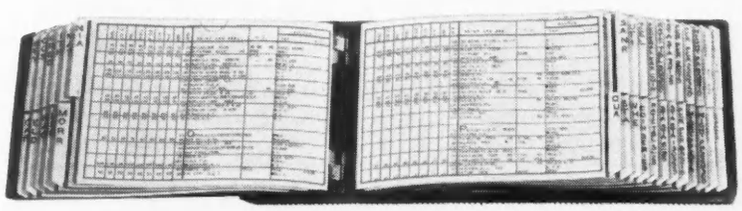
This is the second award for the Elyria Telephone Co. within a year. Last fall the company was given a plaque by The Cleveland Advertising Club for noteworthy achievement in advertising. Anson F. Hardman, 607 Caxton Building, Cleveland, Ohio, handles the Elyria Company's advertising. Mr. Hardman is a retired Bell System public relations official, who is handling the advertising and public relations for a number of telephone companies in the Independent field.

ACME VISIBLE for RATE and ROUTE LONG DISTANCE INTER-TOLL DIALING

• Multi-Card Bulletin Holders

Developed by Acme engineers working in cooperation with telephone engineers to meet the exacting needs of the telephone industry, to conserve time, reduce cost of operation and improve customer service.
In sizes and capacities to meet individual requirements. They employ the use of clear transparent cellulose acetate pockets which hold card inserts. Suspended on steel hangers with 2, 3 or 4 pockets per hanger, both sides are visible. Made especially for Acme Bulletin Holders, they provide real protection for the printed inserts. They are ready for use with permanently attached hinges and reinforced index tabs. Card inserts do not require any die-cutting or punching and any reproducing process (typing, printing, etc.) may be used.

Vertical units are carried in stock in 3 sizes with 10, 15 or 20 hangers—each available with 2, 3 or 4 pockets per hanger, providing capacities up to 3,840 listings. Made on order to fill any capacity requirements.



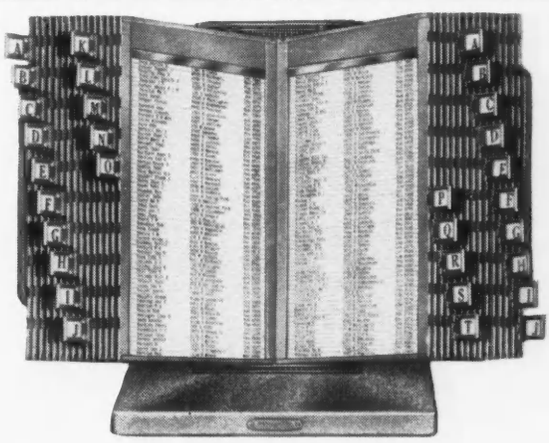
Horizontal units, recommended where space from front to back of key shelf is limited. Made in various sizes, to provide required capacities, utilizing the *width* space.

• FLEXOLINE Equipment

Telephone companies everywhere have been able to render an improved service at lower cost through the use of Acme FLEXOLINE equipment, designed to meet the exacting requirements of the industry.

Names are typewritten on FLEXOLINE Strips, separated and filed in the correct alphabetical or numerical sequence, in FLEXOLINE Frames, always maintaining an up-to-date list. For multiple appearances, FLEXOLINE Strips are indexed with duplicating machines, assuring uniformity and accuracy in all appearances of the records.

Acme FLEXOLINE Desk Stands are ideal for Rate and Route Centers. Any frame is available for instant reference with a single motion. The Desk Stands tilt slightly backward, causing frames to stay open without being held. A few hundred or many thousands of listings are held *visible* for fast and accurate reference.



Acme Visible Equipment has been designed for telephone use by Acme Systems Engineers in close cooperation with practical, experienced telephone experts. For information and suggestions, address Telephone Systems Department.

Here are two informative booklets illustrating and describing various units which have been designed for, and use-tested by, telephone companies throughout the country.

Send for your copies today!

ACME VISIBLE RECORDS, INC. CROZET, VIRGINIA

District Offices and Representatives in Principal Cities

ACME VISIBLE RECORDS, INC., Telephone System Division, Crozet, Virginia

Please send us illustrated booklet

☐ #994 on Acme Multi-Card Bulletin Holders ☐ #982 on Acme Flexoline for Telephone Companies

☐ Have representative call. Date..... Time.....

☐ We are interested in Acme Visible equipment for ..... records.
KIND OF RECORD

Company..... Attention.....

Address.....

City..... Zone..... State.....

TIDBITS

In London a man who may be champion for a long time took over as holder of the last place in London's telephone directory.

His name: V. K. Zzzu.

In the new directory Zzzu took over from Lewis Zzymbia, who reigned for years.

■ ■ ■

In Zurich, Switzerland, the Zurich Telephone Co. announced it is offering a new service to harried businessmen whose forgetfulness gets them into trouble at home.

For a small fee, the company said, it will provide a "reminder service for those hard-working businessmen who forget such important events as birthdays and wedding anniversaries."

■ ■ ■

In Atlin, B. C., an ordinary radio set can pick up conversations on the radio-telephone circuit between Atlin and Whitehorse, Yukon Territory. Residents are urging that measures be taken to insure privacy.

■ ■ ■

In Galveston, Texas, an excited woman called the business office. She had just made a call from a pay station and wanted her coin back. She said the coin was a keepsake dated 1879. When the collection was made, the coin was returned to the grateful customer.

■ ■ ■

In McAlester, Okla., even the birds are taking to the new dial system. Shortly after an illuminated dial sign was installed on the front of the new building, birds began nesting in the digit holes of the large dial. Plastic covers answered the problem.

developed sufficiently for telephone companies to use it commercially. One objection is the transmission band is too narrow and doesn't allow enough channel circuits.

Development of over-the-horizon transmission is so recent, one air force telecommunications expert said recently, that the DEW line on Canada's Arctic shore would not have been possible two years ago.

Signalling back of necessary information from these soon-to-be-automatic installations had been the stumbling block.

Judge Reverses Commission On So. Bell Rate Increase

RATES OF THE Southern Bell Telephone & Telegraph Co. in Alabama in effect since June, 1954, were affirmed Nov. 16 in a ruling by Circuit Judge Walter B. Jones in Montgomery, Ala. In the action, Judge Jones reversed an order of the state Public Service Commission, denying any rate boost. The rates average 50 cents monthly higher for Alabama customers than those prescribed by the commission.

Following the commission's turndown in April, 1954, Southern Bell filed an appeal to the Circuit Court, put the increased rates into effect, and posted bond to cover refunds in the event the court ultimately upheld the commission.

Judge Jones' action was principally on the ground that "the fair net return to the company on the value of its property devoted to the public use in the state should be fixed at 6-2/3% per annum."

Private TV Relay Proposed In Filing

PLANS FOR the largest privately-owned intercity television transmission microwave system filed to date—to pick up San Antonio, Tex., TV network programs off-the-air for delivery to station KRGV-TV, which has studios in Weslace, Tex., via a seven-station relay system — have been submitted to the FCC by KRGV Television, Inc.

The television company said it has received "assurance" that the proposed system can be completed in six weeks after FCC approval, and that the private microwave system-facilities equipped for color — can be installed and operated for about $6800 monthly.

In comparison, the filing stated, Bell System estimates involve a higher rate to build and operate an off-the-air system, and such a system would take five months after FCC approval before being placed in operation. Also, the company said, the Bell System has despite requests "still failed to supply information regarding furnishing an intercity microwave system which would transmit color or as to the cost in the event that more than one TV station ordered this same intercity service."

KRGV-TV said if its applications were approved, it would "cooperate" with station KGBT-TV in Harlingen, Tex., in making space available on its microwave towers to enable KGBT-TV to install similar facilities.

At the same time, the Community Radio Corp., operator of station KNOX-TV at Grand Forks, N. Dak., filed with the Commission for an off-the-air pickup and microwave relay system to simultaneously rebroadcast programs of station WDAY-TV.

Transatlantic Television Broadcasting Now Possible

TRANSATLANTIC television broadcasting could be established immediately through installation of a new type of signal transmission called "scatter" broadcasting, it was agreed in Washington last month.

The concept which opens new vistas of communications was discussed by several leading scientists and an FCC official at a symposium sponsored by the Institute of Radio Engineers groups and George Washington University.

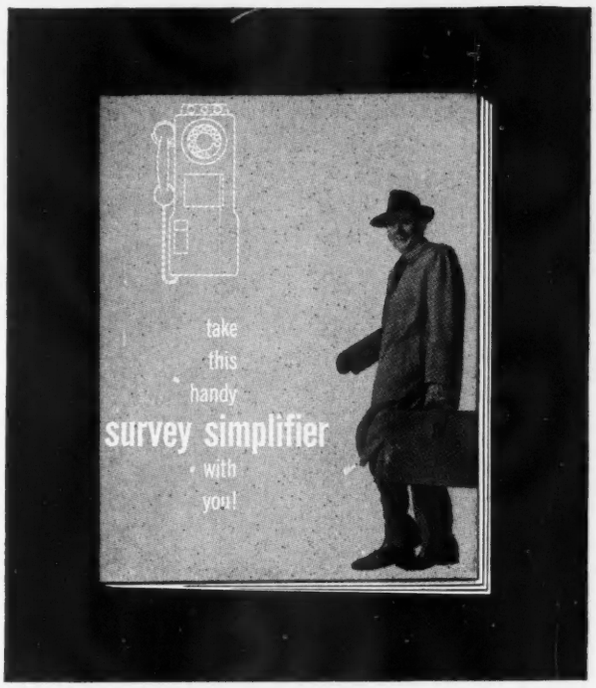
Federal Communications Commissioner Edward M. Webster said the new technique appeared to make possible "extremely reliable" circuits over distances of up to 1,000 miles.

Coleman Goateley, an electronic engineer with Melpar, Inc., declared that the system might permit intercontinental television and perhaps reduced rates in radiotelephone systems.

He likened the new technique to what happens when a powerful searchlight is aimed at the sky on a hazy night. The light is scattered by dust and small water droplets.

In broadcasting, he said, the idea is to have a signal strong enough so that radio waves are scattered by electrically charged areas in the atmosphere. Some of these are picked up and amplified at the relay stations.

Dr. Allen B. Du Mont, president



new

"survey simplifier"

helps locate the best paystation sites

Here's a book you'll find a great help when choosing locations for paystations! Carry it with you. It's a reminder and organizer of the data you'll need to pick the *best-paying* spots.

It contains:

- *Handy Survey Blanks,* with space for noting traffic counts, physical characteristics and other details helpful in appraising each prospective location. By filling out a form for each site and then comparing various sites, you will be able to choose those which will pay most rewardingly.
- *Idea Sheets* showing typical locations which are proving particularly worthwhile. Each sheet contains spaces for jotting down similar locations in your area.
- *New Products Section* which illustrates booths and accessories not yet included in our Paystation Catalog.

Automatic's new Survey Simplifier is based on the experience of successful telephone men. It's yours without cost—get one for each of your commercial representatives. Ask for Circular TM1859 today. Address: *Automatic Electric Sales Corporation,* 1033 *West Van Buren St., Chicago* 7. *Or call HAymarket* 1-4300.

A Product of the Telephone Specialty Department of

AUTOMATIC ELECTRIC

ORIGINATOR OF THE DIAL TELEPHONE

of Allen B. Du Mont Laboratories, Inc., emphasized the transoceanic applications because, he explained, current cost factors do not compete with presently installed coaxial facilities of the American Telephone & Telegraph Co.

"It is possible in a very short time to have a link across the ocean," he declared.

"I believe that it would be well worth the attention of Congress to study the feasibility of immediately establishing a live trans-Atlantic television hook-up using scatter transmission techniques," he added.

An immediate application is in the pipeline field, where microwave equipment is extensively used to monitor the flow of liquids and gas over tremendous distances. Conceivably, scatter transmission could provide reliable communication for such operations if the cost can be competitive.

Gordon Thayer Named Chief Engineer, A.T.&T. Co.

GORDON N. THAYER, who has been vice president of Bell Telephone Laboratories in charge of switching and transmission development, has been appointed chief engineer of the American Telephone & Telegraph Co. He succeeds H. I. Romnes, who was elected a vice president of A.T.&T. last month.

Thayer joined the Laboratories in 1930 and for 10 years worked on development of mobile radio communications equipment and systems. He then worked on development of radar systems and, later, microwave radio relay systems. Among the systems he helped develop are the transcontinental radio relay, and the Key West-Havana submarine cable.

He was appointed assistant director of transmission systems development in 1949 and director in 1951. In May, 1952, he was named a vice president, responsible for the Laboratories' military development program.

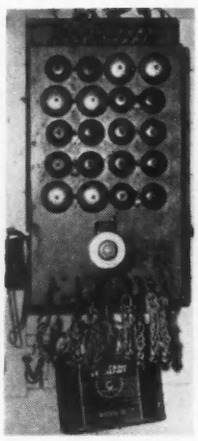
Francis Reed Named To New Position

FRANCIS REED has joined the general office staff of General Telephone Co. of Upstate New York, Inc., as general plant training supervisor, according to an announcement made by Robert M. Wopat, president.

Within the next several months Mr. Reed will prepare a course of training and retraining for the skilled crafts. He is presently preparing the necessary manuals, training aids and training room.

Mr. Reed was born in East Rodman, N. Y., and was graduated from Adams Center High School. He spent one summer working as an installer-repairman for the New York Telephone Co. He joined General on March 18, 1946, as a groundman at Adams, N. Y. He has worked as a lineman, station repairman and combination man in the Old Forge and Lowville, N. Y., exchanges.

Oldest Switchboard Replaced?



What is believed to be one of the oldest central office manual switchboards left in existence was replaced by automatic equipment recently when the Clifton Forge-Waynesboro Telephone Co. converted its Potts Creek, Va., exchange to dial. The venerable "board" will be kept by the company as a museum piece. At right, ready to pull pins at the cutover of the new $115,000 automatic dial installation at Potts Creek, are the following Clifton Forge-Waynesboro Telephone Co. officials (l. to r.): — **R. P. SMITH,** plant superintendent, Covington, Va., exchange; **N. R. HINTZE,** commercial manager, Covington, Va., exchange; and **F. T. PRUFER,** president of the company.

"Sage" System Dependent on Telephone Facilities

THE SEMI- automatic ground environment system of air defense known as SAGE which is being developed for use by this country is "feasible in the continental United States only because of the existence of a network of commercial communications land lines that has no countglobe," Maj. Gen. Gordon A. Blake, Director of Communications, US Air Force, told a meeting of the New Haven, Conn., chapter of the Armed Forces Communications-Electronics Association.

In a description of SAGE and how it operates, General Blake emphasized the reliance being placed on the telephone industry to provide essential services that it is uniquely equipped to do. "As an assistance to national defense, particularly in the air defense aspects, the telephone system is becoming a greater national asset each year," he said.

Discussing leasing arrangements to carry out the SAGE program, General Blake stated that at the present time the "Air Force is leasing lines for all military purposes from about 600 telephone companies, 20 of which are Bell System and 580 are Independents. For SAGE nearly every corner of the country will be involved. Obviously, a great many telephone companies will participate. The number of companies participating cannot be predicted at this juncture. However, all the telephone companies of the nation are protected by franchises covering the areas they serve."

The AF Communications Director stated: "I would like to stress that the communications lines required for SAGE will, in general, not be newly constructed in their entirety. The major portion will be derived from the vast network of commercial communications lines presently in existence. The value of these new extensions lies in the fact that they will be engineered and built to integrate with the overall telephone system of

the country. Only by this can we get the quality, flexibility and reliability of service required.

"I would also like to stress that we are counting on teamwork and support of the program from all parts of our vast telephone system, including the many equipment manufacturers which serve that system. Our experiences in the past indicate clearly that such teamwork will be readily available."

The AFCEA group was also told that "One aspect of SAGE is misunderstood frequently. Although we are leasing the communications circuits for SAGE — we are not leasing the other parts of SAGE. When the direction center buildings, with their computer and other equipment, are completed, they will be government property." These buildings, to cost $3,500,000 each, will be specially constructed with controlled atmospheric conditions. Over 600 separate communications lines will enter each of the buildings, tying it to many radar and other information sources and to other control centers.

Virginia Independents Meet at Roanoke

■ ROANOKE, VA. — Telephone company employes can be valuable assets in promoting the welfare of the company, two speakers told 200 delegates to the 21st annual convention of the Virginia and West Virginia Independent Telephone Associations at Roanoke, Va., Oct. 20-21.

Employes can be a potent force in getting employe applicants and in extending the company's services, they said.

An effective personnel department must have applicants, said Mrs. Marie Torian of Roanoke, Va., administrative supervisor for the Chesapeake & Potomac Telephone Co.

"Applicants don't just walk in," Mrs. Torian said. "You have to do something about it."

Arthur F. Boyd of Lexington, Ky., general commercial engineer of the General Telephone Co. of Kentucky, told the delegates that "your employes are your sales force — use them."

Boyd said ". . . full employe participation in a sales program is the most effective way to produce the additional revenue that you need."

"Don't overlook anybody in your organization," he said. "Get them all, from the president to the janitor. They can all sell for you."

Boyd said his company gave each employe a sales kit and then set up a grading system so the employe-salesmen could compete with each other.

And proof of the plan's good is reflected in figures. Boyd said that dollar results for the month of August reached the figure of $27,000 in increased annual revenue.

By comparison he cited other monthly revenue figures: January, $13,000; February, $17,000; March, $18,000; April, $17,000; May, $16,000; June, $16,000; July, $17,000.

"We believe that we are at least on the right track," Boyd said.

Mrs. Torian said her company also has set up a scoring system so employes can compete with each other. A record is kept of the number of employe applicants each employe brings in, she said.

It makes employes proud when one of their applicants is hired and then makes good with the company, she said.

Another speaker at the convention was Leon F. Roberts, director of information for the United States Independent Telephone Association, Washington, D. C.

"Advertising doesn't cost — it pays," he said.

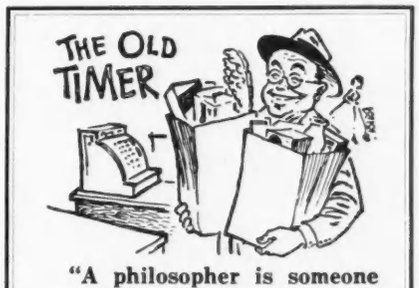
Roberts outlined the advertising program that was undertaken a year and a half ago by the USITA and said it is playing an important role in telling the public about the Independent telephone companies.

New officers elected by the Virginia Association are D. B. Draper of Staunton, Va., president; Walter G. Robertson of Warsaw, Va., first vice president; Conrad Logan of Tarboro, N. C., second vice president; and Harry P. Cavendish of Martinsville, Va., secretary-treasurer.

New officers of the West Virginia group are G. W. Null of Wayne, W. Va., president; Edward Filler of Davis, W. Va., first vice president; Don F. Rousch of New Haven, W. Va., second vice president; and Paul Miller of Romney, W. Va., secretary-treasurer.

Virginia Association Officers & Directors

OFFICERS & DIRECTORS of the Virginia Independent Telephone Association. Sitting L. to R. HARRY P. CAVENDISH, Harrisonburg, secretary-treasurer; D. B. DRAPER, Staunton, President; WALTER G. ROBERTSON, Warsaw, second vice president; CONRAD J. LOGAN, Tarboro, N. C., first vice president; Standing L. to R. KERMIT S. LAND, Pungo, director; A. E. REYNOLDS, Bristol, Tenn., director; W. J. HOLLOWAY, Smithfield, director; C. W. YANCEY, Disputanta, director; DUANE T. SWANSON, Charlottesville, director; STANLEY A. OWENS, Manassas, director; GARLAND T. LaPRADE, Martinsville, director.



"A philosopher is someone who always knows what to do — until it happens to him!"

Northern Ohio Tel. Co. Advances E. Alexander

PRESIDENT WM. C. HENRY has announced the appointment of Eugene Alexander as central office equipment superintendent for Northern Ohio Telephone Co.

In his new capacity, Mr. Alexander

Revenue Boosters

Canadian Bell Merchandises Telephones for Christmas

THE BELL Telephone Co. of Canada is asking subscribers — "Have you a Christmas gift problem? Then why not give something different and yet strictly practical this Christmas— the time and step-saving convenience of an extension telephone?

"The telephone itself, attractively wrapped and ready to go under the Christmas tree, can be ordered from any Bell business office. Our installation people will connect it whenever the recipient wishes, all ready for months of paid-up service and comfort.

"Moreover this gift can be made without a down payment, in case the budget for Christmas presents is running low. You pay for your friend's telephone on your regular telephone bill for any period desired — normally a year."

This gift suggstion is being made throughout Bell of Canada's territory during the Christmas season, although the gift of course can be made on any occasion. Employes are being asked to draw the idea to the attention of acquaintances.

The giver can pick up his Christmas-wrapped telephone himself at the business office, or have it delivered either to his own home or direct to the person who is to receive it.

An attractive card, with space for the donor's signature, is provided with every gift telephone. The card will carry a short message asking the person receiving the gift to call the company and arrange for a convenient time to connect the telephone.

■ ■ ■

Open House Programs

THE VALUE of an open house program in connection with a telephone company's merchandising campaign is well illustrated in the current series of open houses by the New Jersey Bell Telephone Co., which has been holding from 25 to 30 open houses annually for the past three years throughout its territory.

Three exhibits at the open houses accomplish the merchandising aim. Most popular is a long-distance guessing game, at which customers are asked to estimate the long-distance rate to a specific city. Periodically during the open house, a visitor is asked to make a call to any point of his choice, to demonstrate the telephone's speed and efficiency.

A telephone equipment "supermarket," displaying 38 of the many types of telephone equipment, also is shown at the open houses. A third exhibit shows the convenience and economy of an extension telephone, with a cutaway view of a home used to illustrate the extension's advantages.

■ ■ ■

Truck Posters Aid Merchandising Program

THE FIRST advertising posters to appear on Company trucks in more than 20 years are being seen throughout Bell of Canada's territory.

Two distinct posters are being used — depending on the rate groupings of the districts in which the trucks operate.

In rate groups six to 10 some 1,700 Bell trucks carry the message *"Get a Handy Home Extension 'Phone, $1.25 a month (or less)."*

In offices where extensions cost only $1.00 a month a slightly different poster with the same extension promotion message will be used.

Installation, repair, panel delivery and coin collection trucks are the vehicles used to carry the first posters. The posters are 17 inches wide by 13 inches deep. They have adhesive backs for easy mounting. Instructions for the proper use of the posters on different makes of trucks are included on the reverse side of each poster. And only one poster per vehicle is used — mounted on the curb or right-hand side of the truck.

will be responsible for the engineering of all new and additional central office equipment, including the equipment associated with toll and EAS trunks. He will also supervise the maintenance of all central office equipment.

Mr. Alexander joined Northern Ohio Telephone Co. in 1934 as an installer. More recently he has served as an equipment engineer.

■ ■ ■

General Tel. Employes Save Trucker's Life

A NEW YORK State truck driver continues on the job today thanks to the quick thinking of five employes of the General Telephone Co. of Upstate New York, Inc. The driver, pulling a load of heated asphalt in a tractor-trailer rig, was saved from serious injury when his truck overturned near Charleston, N. Y., crushing the cab and pinning him against the dashboard.

On Friday, August 12, Harold Oare, construction foreman, and Arnold J. Hagedorn, Albert F. Strouse, Arthur Willis and Frank Zayicek, members of the construction crew, were eating their lunch a short distance from the point where the accident occurred, when a passing motorist reported that a truck had gone off the road, taking down a pole and disrupting telephone service. After Zayicek climbed a pole to call the State Police for assistance, the crew went to the scene of the accident.

Although they were not the first ones on the scene, the earlier arrivals did not have any means of freeing the driver from his cab. Taking charge of the situation, the telephone employes attached a winch line to the cab of the truck. While Oare lifted up on the roof of the cab to guide the winch operation Hagedorn directed traffic. Strouse, Willis and Zayicek attached a rope to the shifting lever, pulling it free from the driver's body so that the driver could be extricated from the cab feet first.

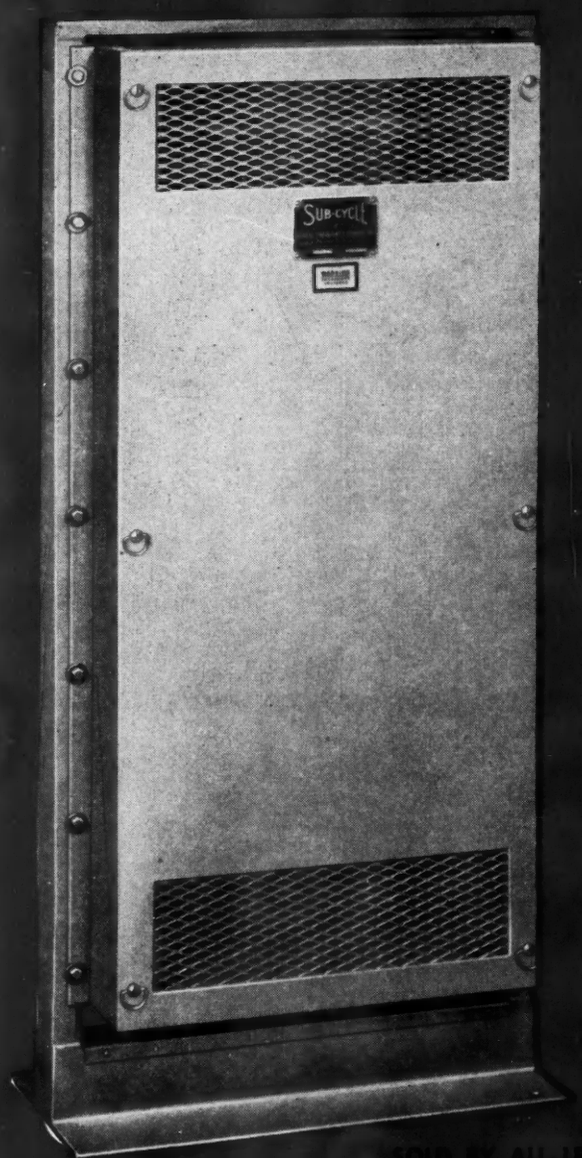
Laying the driver carefully on the ground, the men massaged his arms and legs which had become numb from the lack of circulation.

Each employe was presented a LaCroix Certificate of Meritorious Service, which is awarded to employes of the General Telephone System who have performed acts of unusual merit, by R. M. Wopat, president of the General Telephone Co. of Upstate New York, Inc.

another **FIRST** by Lorain!

THE S-5 SUB-CYCLE

FOR SYNCHROMONIC RINGING!



PERMANENT

Dependable

OPERATION!

YEAR AFTER YEAR

Making use of a unique conversion principle combined with basic Sub-Cycle circuits used repeatedly in other Lorain equipment, the S-5 Sub-Cycle has power to spare. Depend upon it to deliver full-rated capacity even under the most gruelling conditions. It has excellent voltage regulation, and will always deliver the exact synchromonic ringing frequencies. The S-5 has no moving parts; therefore, it provides the permanent, maintenance-free, economical operation that is characteristic of all Sub-Cycles.

The Model S-5 can be equipped to supply either 15 cycles or 20 cycles as the fifth frequency; if only four frequencies are required, the converter is designated as a Model S-4. A minimum of floor space, only 24-3/8" by 15", is required.

WRITE FOR BULLETIN 169

SOLD BY ALL LEADING TELEPHONE DISTRIBUTORS

LORAIN PRODUCTS CORPORATION · LORAIN, OHIO

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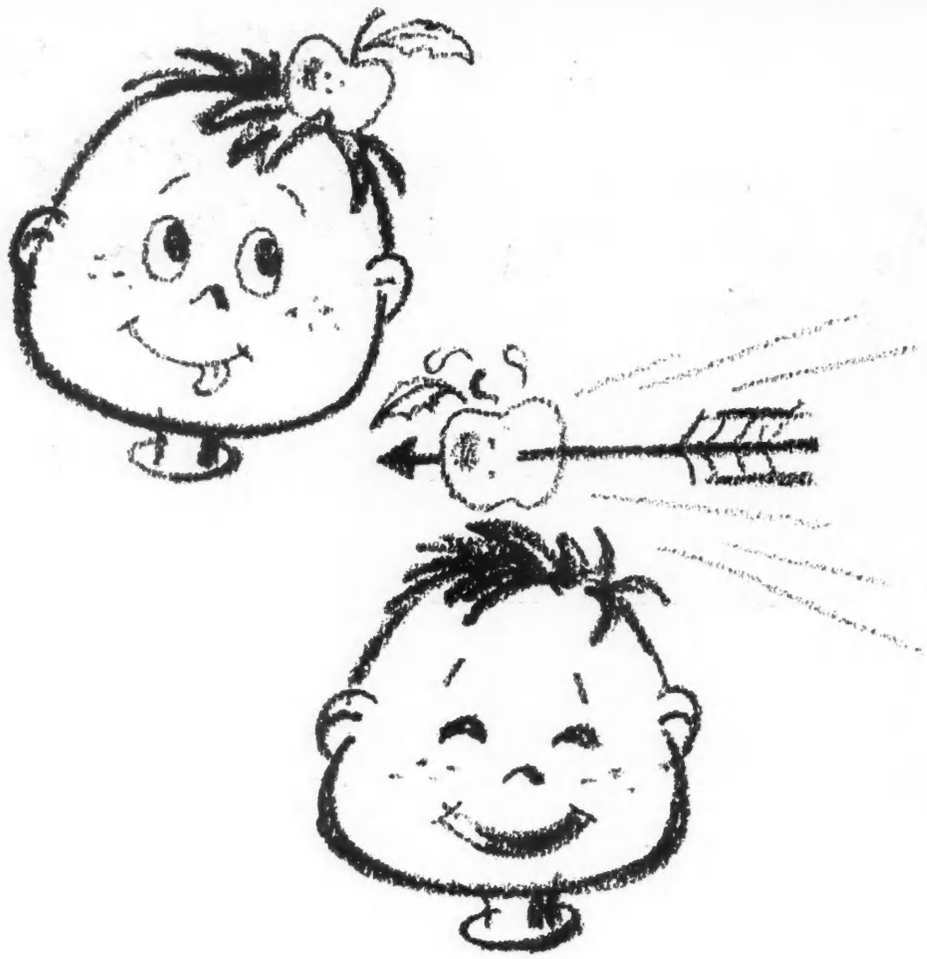
PARTNERS IN DEPENDABILITY
SUB-CYCLE



Confidence...

Most of the telephone companies that buy their line supplies from Kellogg have been doing so steadily year after year. Many have been regular customers for over a half-century. This is not done out of mere habit or friendship. These companies have learned through experience that they can always rely on Kellogg for the very best products, and for truly dependable delivery and helpful service. The next time you have an order, whether it's for an emergency or for your everyday needs, send it to Kellogg and see why Kellogg Line Supply customers keep coming back to Kellogg.

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KELLOGG DIVISION OF IT&T

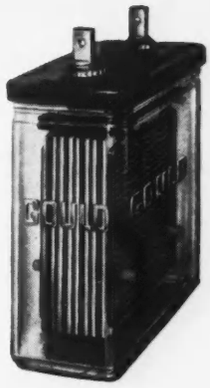
for

Line Supplies

UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION

Automatic Type Splices and deadends with steel chucks that hold steel strand (any grade) to its ultimate strength. Available 1/4" through 7/16" strand size—with range of bail types. The Strandvise and Strandlink are products of RELIABLE ELECTRIC COMPANY.

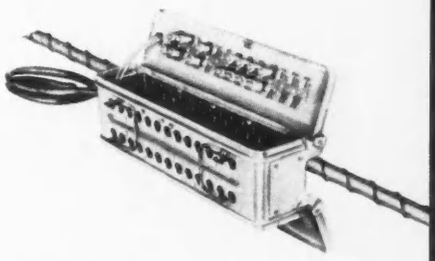
The Time-Tested Steel Strand. A ductile, adherent zinc coating applied by the famous Crapo Galvanizing Process, provides lasting protection against corrosion in INDIANA STEEL & WIRE CO.'s Crapo Steel Strand. Minimum maintenance expense.



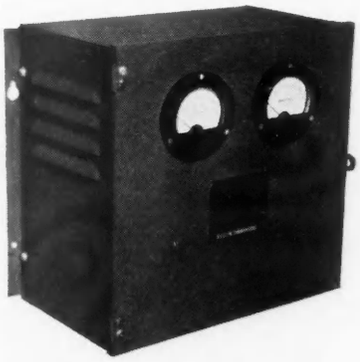
Outstanding Battery Performance is yours when you choose Gould Plante Batteries. Thick, grooved pure lead positive plates give many years of trouble-free service! Made by GOULD-NATIONAL BATTERIES, INC., a leader in their field. They're the finest money can buy.

Peak Performance at Lowest Cost! Get better voice and high frequency transmission with COPPERWELD STEEL CO.'s Line Wire. It's non-rusting, light in weight, easy to string. Permits safer long spans with savings in initial construction and upkeep.

Exchange Area Cable for aerial and duct use. TELECABLE* has polyethylene insulation and sheath, excellent transmission qualities. 202 Pair and smaller. Approved by REA. *TELECABLE is a trademark of WHITNEY BLAKE COMPANY.



The Cook Stranterm available with 11, 16, or 26 pair cable stubs—(26-pair shown). Only strand-mounted Cable Terminal designed for flexible system of selective discharger protection. Supplied with plastic or lead-sheathed cable stub. COOK ELECTRIC CO.



First Choice of the Telephone Industry! The Raytheon RectiChargeR is fully automatic, maintains constant output voltage regardless of variation of load and line voltage. Never overcharged or undercharged, batteries last longer. RAYTHEON MFG. COMPANY.

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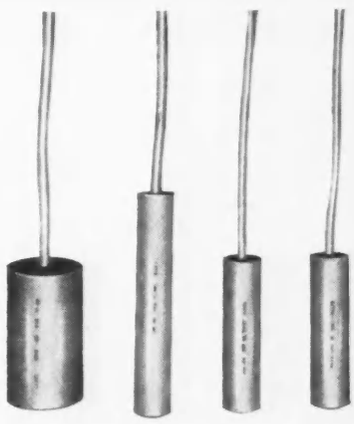
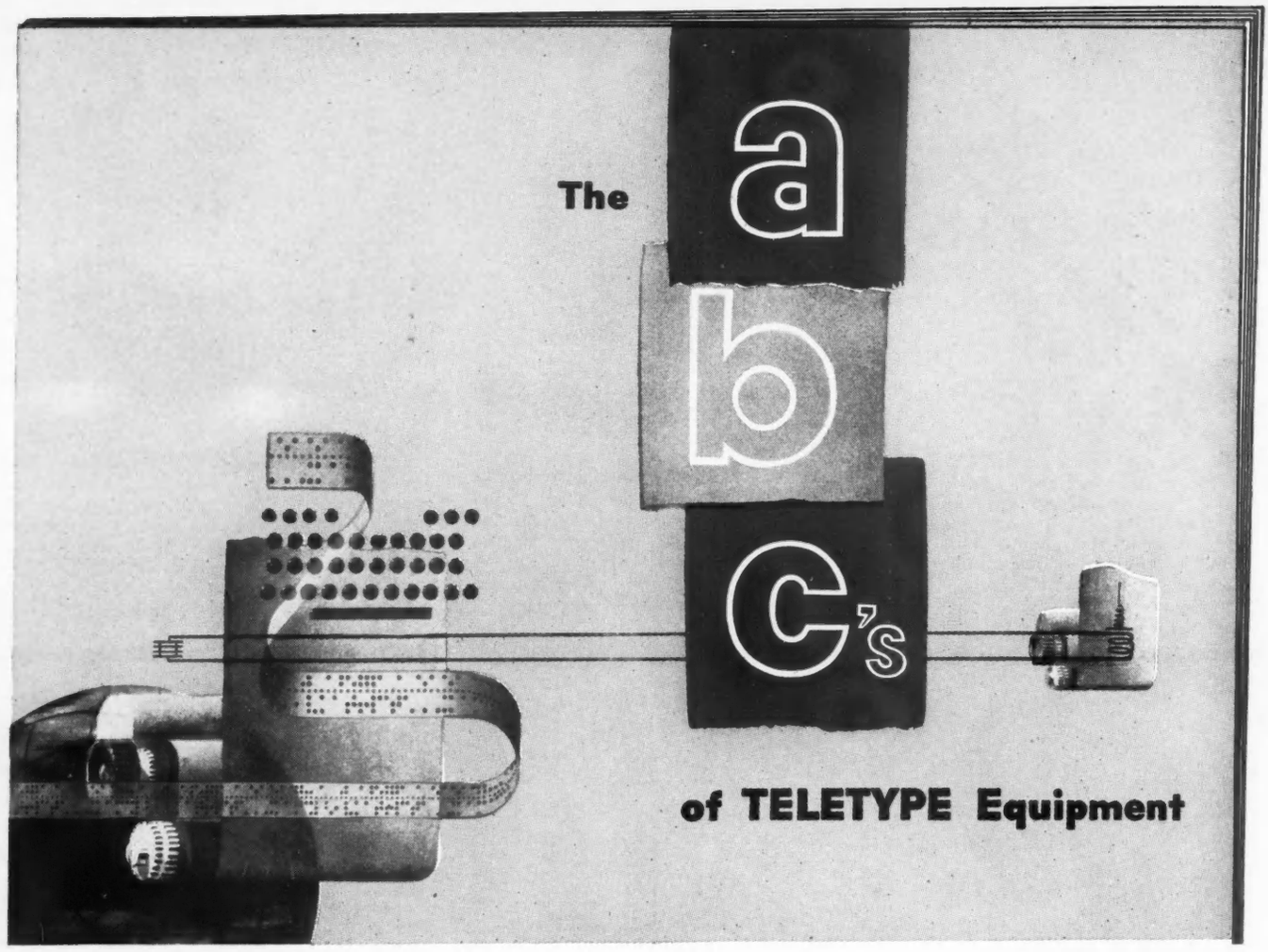


Application of Loading Coils on telephone circuits, reduces loss to 1/3 or 1/4 the non-loaded value — coils shown are used on a 2-wire telephone circuit in non-quadded paper insulated or plastic cable. COMMUNICATION EQUIP. & ENGRG. CO.



NOW AVAILABLE — a new edition of an old friend— *"The ABC's of TELETYPE Equipment"*

Revised and expanded, the booklet covers the operation and uses of Page Printers, Perforators, Reperforators, and Transmitter Distributors... explains the Baudot code and how code pulses are dispatched over a signal line... touches on relaying systems and integrated data processing... and cites some of the imaginative ways users apply Teletype apparatus to solve a variety of communication and other problems.

Written in nontechnical language, *The ABC's of Teletype Equipment* is a useful primer on printing telegraphy. If you would like a copy for yourself, or to pass along to members of your staff, just fill in the coupon and drop it in the mail. There is no charge, of course.

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INDUSTRY NEWSLETTER

"A MAJOR FACTOR"

No agency in Washington has shown greater willingness to change its policies when convinced that a change would be for the better, or better performance in actually making the changes it says it is willing to make, than the Rural Electrification Administration where its telephone program is concerned. That statement may be too broad — no one could be familiar in detail with the workings of all of the many federal government agencies which have mushroomed over the years. But this column, to the best of its knowledge, believes it to be true.

Such a statement is made, of course, without regard to opinions as to whether it is desirable to have a federal agency financing rural telephone service. Regardless of those opinions, the REA telephone program is an accepted and accomplished fact; it is financing many telephone systems; and it is a very major force in the nation's rural telephone picture today.

It is impossible to make these observations without a congratulatory wave in the direction of REA Administrator Ancher Nelsen and his staff. Actually, it is not easy to locate aspects of the REA program which can be clearly described as in line with what is usually accepted to be Republican party policy, or opposed to what is usually described as Democratic policy. What is being developed is REA policy; hardly non-partisan, since Mr. Nelsen is a staunch Republican, but very nearly bi-partisan.

These observations stem from a talk by a career government official, E. C. Weitzell, who heads REA's Telephone Operations & Loans Division, which delineates some relatively recent policy modifications in the telephone program.

Mr. Weitzell, pointing out that "Numerous larger companies have substantial rural properties which are difficult to finance through orthodox credit sources," commented that "It is a relatively simple procedure, however, to establish subsidiary corporations to which the rural properties and exchanges may be sold as a basis for obtaining REA long-term, low-cost financing. Such a transfer and division of property tends to strengthen the parent corporation and to eliminate the problem of refinancing the existing indebtedness. Normally, the parent company then proceeds to engineer and construct the plant for the subsidiary corporation, and to manage it under a long-term management agreement."

He brought out that "In the early days of the telephone program, there was a tendency to insist on making loans to cover all of any particular borrower's system. This requirement has been changed to permit the financing of individual exchanges, or sections, of a borrower's system, so long as each loan is economically feasible and represents an operating entity or unit."

The REA telephone loans head declared that "Contrary to numerous reports that have been circulated, REA does not require that borrowers provide systems to serve every establishment in their service areas. We recognize the practical limitations of overbuilding and the necessity to build only those lines and provide only that capacity which will actually be used by subscribers . . . In planning loans, we recommend that remote and isolated subscribers be deleted from the initial construction program and that the borrower adopt an extension policy as a part of its tariff. On the basis of such a policy, remote and isolated subscribers will be served on a uniform basis in accordance with the relative costs involved."

Mr. Weitzell also emphasized: — that REA recommends that stock or share ownership in a cooperative not be a condition precedent to obtaining telephone service from the co-op; reported that the agency does not specifically approve managers, but reserves the right to disapprove them in rare instances where they might jeopardize loan security; and praised the cooperation of the Bell System and the larger Independents, particularly in negotiating extended area and connecting agreements.

Mr. Weitzell reported that REA is "already looking forward" to another meeting with its group of consultants from the industry, borrowers, and regulatory field "in the not too distant future"; announced that time between receipt of an application and advance of funds has been cut in half; and pointed out that the trend has been to permit "capable companies" to do their own engineering work prior to loan approvals and then use their own construction crews.

(Concluded From Page 48)

WASHINGTON NEWSLETTER

FEDERAL-OWNED PROPERTY

The General Telephone Co. of the Northwest, which holds territorial rights in the area of the atomic plant community of Richland, Wash., has filed a formal application with the Atomic Energy Commission looking toward purchase of the federally-owned telephone facilities at Richaland.

The Richland telephone system and General of the Northwest's efforts to resume service to the area were the subject of considerable discussion earlier this year when Congress passed a bill authorizing disposal of the federally-owned properties in the Washington town.

As the AEC prime contractor in Richland and the adjoining Hanford atomic center, the General Electric Co. operates the telephone system and other facilities there. Under the legislation and AEC policy, Richland, as well as Oak Ridge, Tenn., are being turned over to local self-government, and federally-owned facilities are to be disposed of. There is no telephone problem at Oak Ridge, as the Southern Bell Telephone & Telegraph Co. already operates the system there.

AEC now has the General of the Northwest application to purchase under consideration, and has asked its Hanford operations office for comments, it is understood.

Although there has been an effort to have the telephone system and other utilities in Richland turned over to the municipality to provide revenue sources, the bill passed by Congress immediately prior to adjournment provides that the AEC may consider the pattern of utility ownership in the locality in disposing of such property. Washington state laws have been interpreted by the state Attorney General as not giving the municipality authority to operate a telephone system, and of course the pattern of telephone ownership in the area is entirely one of private enterprise.

FCC OBJECTS

In the first telephone acquisition case to move out of the routine stage in Federal Communications Commission consideration since Southwestern Bell Telephone Co. proposed acquisition of the Tomball, Tex., Telephone Co., the Commission's Common Carrier Bureau has filed conclusions that the Pacific Telephone & Telegraph Co.'s proposed acquisition of Mt. Wilson, Calif., properties of the California Water & Telephone Co. has not been proved to be in the public interest.

The Tomball case is awaiting final FCC decision, having been remanded to the hearing examiner for further sessions to start in mid-December. The examiner's decision was unfavorable to granting the requested certificate, but the FCC itself ruled that additional evidence should be taken. Meanwhile, the Texas Telephone Association, which opposed Southwestern Bell's request, has voted to withdraw from the case, but it is assumed that the US Independent Telephone Association will continue to participate.

As in the Texas proceeding, the FCC bureau's objection to the California acquisition centers around the proposed purchase price. The Mt. Wilson exchange is located in a rugged section of the San Gabriel Mountains, and the upper portion is used as a transmitting site by television, AM, and FM broadcasters.

The exchange telephone facilities are operated by California Water & Telephone, while private line and program facilities extending outside the exchange area are handled by Pacific Telephone, which has pointed out that the "dual responsibility" of the two companies operating in the same exchange area produces complications in meeting the special requirements of the broadcasters.

Pacific Telephone owns about 97% of the total facilities in the exchange, representing an investment of $700,000. The proposed purchase price for the California Water & Telephone facilities is $25,000, which Pacific said "is the lowest figure the (Independent) was willing to accept."

The FCC bureau pointed out that the facilities involved have "an estimated original cost to California of $11,745, an estimated depreciation reserve of $7650, a net value of about $3900," and a reproduction cost new of $12,800.

The bureau said "the proposed purchase price is about 100% higher than even applicant's estimated cost of reproduction . . . In the case of a regulated enterprise, a transfer of property in itself should never become the basis for the assertion of a right to impose higher charges on the consumer or to maintain a scale of charges already excessive. While such an assertion is not now before us" — Pacific Telephone has explained that there would be an aggregate $300 annual decrease in the amount paid by Mt. Wilson subscribers if the acquisition were consumated — " 'the shadow cast before it' may not be present. Public interest considerations . . . require that we closely scrutinize a transfer of property between utilities at a price greatly in excess of its rate base value in the hands of the seller." —

INDIANA BELL

In a unanimous decision Dec. 1, the Indiana Supreme Court upheld the Indiana Bell Telephone Co.'s basic rate schedules, in effect since January, 1952, under the protection of an injunction issued by the Marion County (Indianapolis) Circuit Court. The Supreme Court's decision, which followed an appeal by the Indiana Public Service Commission, affirmed the trial court in all respects in the long-standing case. It ruled that a subsequent commission order to reduce rates had been properly declared null and void, and was "arbitrary" and "unsupported by evidence" in some respects.—***By the editors of "Telecommunications Reports."***

OVER 3000 NOW IN USE IN UNITED STATES, CANADA & HAWAII

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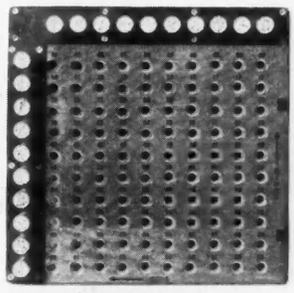

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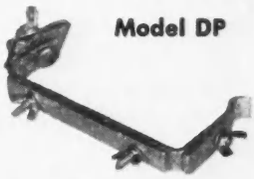

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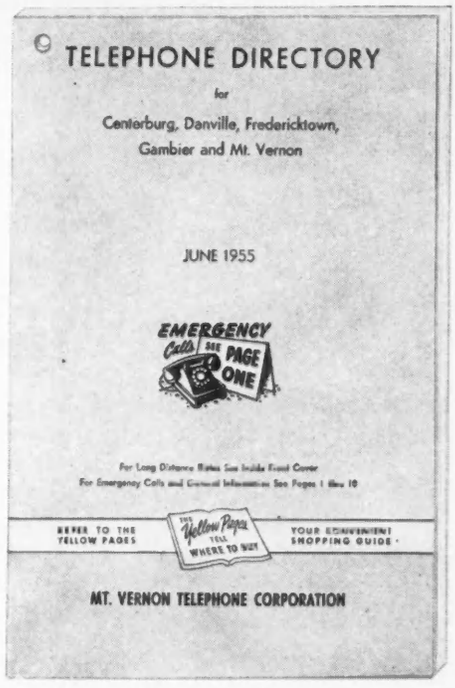

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Telephone Engineer

EDITORIAL

Telephone Engineer

"Getting Bigger By The Minute"

IF YOU ARE doing much reading these days — (and we hope you are) — you are aware of our nation's growth and the telephone industry's important part in that growth. But if you're anything like us, you may have been prone to look at the totals, mumble something about "getting bigger all the time," and let the figures take care of themselves.

That's just what we were doing one day last week when a member of our Research Department dropped a report on our desk. The report bore a simple heading — "U. S. Telephone Growth, Dec. 31, 1949 - Sept. 30, 1955." Before we finished reading it we realized that the greatest single fact about today's telephone industry is its growth — past, present, and future.

Briefly our Reasearch Department's report gathered up a few figures that had previously passed over our desk. We remembered some of them. Individually, they had looked good. But when combined and compared with other figures they now assumed a new stature and our description of them quickly changed from "good" to "enormous."

The reason for our change in adjectives lies in the comparative figures given to us by our researchers. For example during the 5¾ years from December 31, 1949 to Sept. 30, 1955 (later figures are not available at this time) the telephone industry —

(1) Increased the number of telephones commercially in service from 40,709,000 to 55,235,000, a gain of 14,526,000 or 35.7 per cent. Counting 260 working days a year (which does not take Holidays into consideration) U. S. telephone companies during the past 5¾ years installed nearly 9,716 telephones every working day or 1,215 telephones every working hour.

(2) Increased the investment in telephone plant from $10,500,000,000 to the sum of $17,150,000,000, for an outstanding growth of $6,650,000,000 or 63.3 per cent. Of course $6-billion, 650 million dollars is a large sum. It grows though when it is divided up to show that the telephone industry for the past 5¾ years has boosted its investment in telephone plant $4,448,160.50 each working day or $556,020 per hour.

(3) Increased gross revenues from some $3,180,000,000 in 1949 to an expected $5,820,000,000 in 1955, an increase of $2,640,000,000, or nearly 83%. Our researchers put this another way: They said daily gross revenues for the telephone industry averaged $8,712,329 per day in 1949 compared to the expected average of some $15,945,205 per day in 1955 for a gain of $7,232,876 per day!

These figures, grouped and dissected as they have been, tell a story we hope all telephone industry members realize: To us they pinpoint the fact that the telephone industry *is a big business and it's getting bigger every minute.*

It's come a long way in the past five years, but there is more to the story: There appears to be no let up in the demand for telephone service. The nation is growing too fast to allow any easing of demand.

Because of the stature of the telephone industry and the important part it is playing in American business and family life it seems very possible that the normal rate of telephone growth in this country for the next decade or so will be close to 2½ million telephones per year.

That figure, or any figure near it, creates an enormous job for the telephone industry. It points up the fact that the future will not be easy.

After all the 100,000,000th U. S. telephone is not so far away. Industry forecasters believe that event should come to pass in the early 1970's. To reach that mark means work. But if we know our industry, and we think we do, the 100,000,000th telephone will find the industry still "*getting bigger by the minute*" and concentrating on the 200,000,000th telephone!

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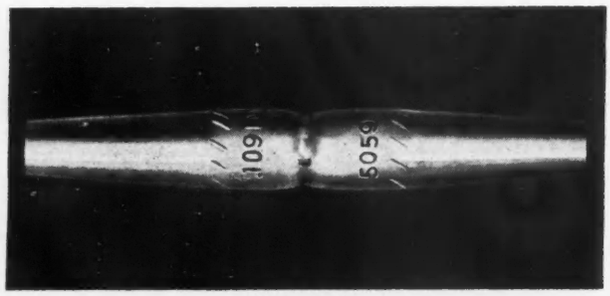

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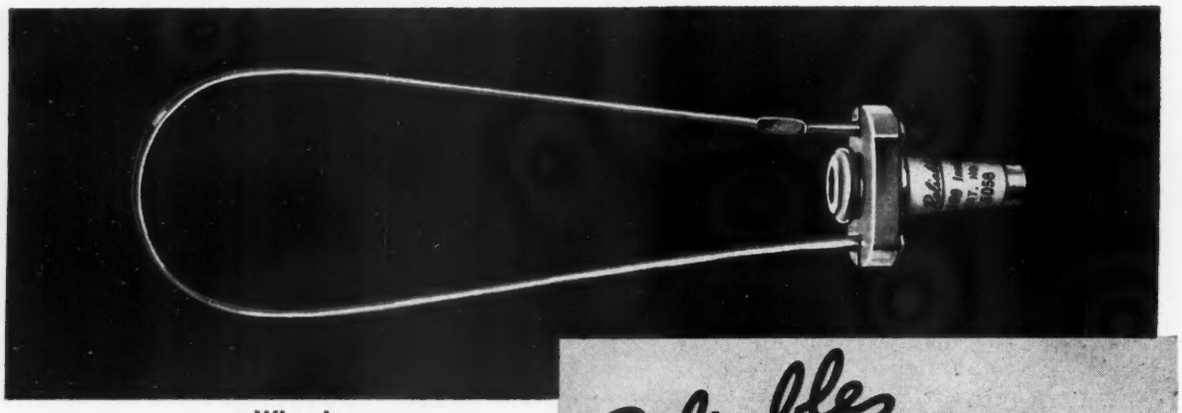

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By RICHARD A. ENION

Our understanding of the human aspect of our business must make tremendous strides to match our technical progress.

The Human Relations Factor

in Management Development Programs

MANAGEMENT men everywhere are finding their daily schedules occupied more and more by problems involving people rather than problems involving things.

In order to keep pace with this changing balance, most industrial and development departments in industry are currently expanding the Human Relations aspect of their programs.

A recent survey by the American Management Association conducted under the auspices of the Fund for Adult Education of the Ford Foundation indicates that 67 per cent of all the industries that offer management training and development programs place Human Relations training as their number one topic. This is the result of a trend that started during World War II and has been gathering momentum ever since.

Training in Human Relations as well as any other facet of our management responsibilities is a never ending process that primarily comes about from our daily contacts with people. Of particular significance are the contacts that we have with those in authority above us in the management organization. It is estimated that fully 50 per cent of our development comes about from these "contacts." In addition, our own efforts to learn and grow through self-study and observation may well contribute another 25 per cent of our total development.

Finally, our participation in company-sponsored or formal training programs can account for the remaining 25 per cent of our development. Thus the training and development of a management man, whether it is in the field of Human Relations or any other phase of his responsibilities, might be analyzed as originating from the following sources: contact with others—50 per cent, self-development—25 per cent, and participation in formal company-sponsored training programs—25 per cent.

Human Relations training certainly comes from all three of these sources. Our concentration on it in our formal programs is merely an effort to hasten the acquisition of the attendant skills deemed necessary in handling people in order to successfully meet some of today's growing manpower problems. Therefore, it might be well to define just what we mean by Human Relations. Since so many definitions have been assigned to the term, it is suggested that we consider

Human Relations as simply our responsibility to keep an employe satisfied while he performs his assigned tasks.

From a training standpoint, this definition might suggest numerous subjects that could be offered to management men in a series of conferences. Certainly it indicates that the management man should enjoy a basic understanding of the causes of employe behavior in the industrial setting. For only by understanding the causes can he hope to mold and shape behavior that will accomplish the desired ends of production and quality needed in today's competitive markets.

One of our approaches to this problem should be to offer our management people the opporutnity to participate in a number of Human Relations Training conferences—aimed at sharpening their skills in handling people.

The first of these programs can deal with "employe motivation" and will enable a manager to better understand the things that employes seek and need in order to be satisfied with their jobs. A natural sequel to this conference can be one on "frustration" which can discuss its causes in industry and ways of avoiding it. Any man in a management position should analyze his own personal brand of leadership, and to this end, a conference can develop on "Effective Leadership."

A Management man should occasionally review his techniques of interviewing and counseling, and management should help him do this in a conference on "Interviewing." Such additional conferences can include "Attitude Development," "Handling Groups," and "Understanding Differences in Individuals."

In order to provide you with a more detailed overview of the content of some of these conferences, it might be well to discuss "Motivation" and then briefly cover "Frustration," "Effective Leadership" and finally, "Interviewing."

Motivation

WE ARE ALL aware that there are many satisfactions that employes seek on the job, such items as good pay and working conditions, fair supervision, opportunities for advancement, etc., are common to many opinion polls. As a result of analyzing these many needs and wants, we have found that they generally can be grouped under five headings. These are known as the *five major satisfactions* that an employe seeks on the job.

In fact, it has been found that they are as much a part of the employe as the job experience, skills and abilities that he brings with him to his daily work. The degree to which they are fulfilled will determine the amount of job satisfaction that he gains in working for you. These five major satisfactions have been classified as:

The Satisfaction Of Economic Security: — This satisfaction is derived from fair pay, pensions, group benefits and other economic benefits. This is a tangible satisfaction that management has been aware of for many years. However, the remaining four satisfactions are intangible and often times are overlooked.

The Satisfaction Of Emotional Security: — This satisfaction is received when the employe is given consistently fair treatment by his boss. It is further implemented when the employe is placed in a job commensurate with his abilities. Finally, this satisfaction is maintained when the employe is periodically informed how he is progressing.

The Satisfaction of Recognition: — This is probably one of the easiest needs to fulfill and yet one that is too often is overlooked. This is the worker's need to be given credit for a good job when it's done. Too often we are prone to criticize and sometimes have a mistaken concept that praise is a sign of managerial weakness.

The Satisfaction Of Self-Expression: — With some employes this is a verbal need. However, among employes who are reluctant to "verbalize," it can be satisfied by allowing the worker enough leeway on the job.

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Arrogance

HERE IS A secret that many people have not yet discovered. The irascible, arrogant, petulant, grumpy people of this world are not all anti-social. Some of them are just timid. Their attitudes may be a mere protective device, a way to hide an inferiority complex in their social adjustment.

You may have noted that some such people who were wall flowers or stay-at-homers-and-in-their-own-corners before, blossom out into high-powered mixers when they become chairmen of committees or have some responsibility for the success of gatherings. So get the timid gruffians to pass the refreshments, or see that Professor Upstage meets all the ladies. Then they may forget themselves, forget that they might be rebuffed or might bump into a faux pas, innocently, or otherwise wish they were home with a book and a pipe, or a power saw in the basement.

There are two kinds of arrogant people, those who don't know any better and those who want to hit first, expecting that they might have their feelings hurt. The first will learn from experience that upstage stuff gets them nowhere, although the road to graduation in that knowledge may be hard and bitter. But the second group need but a little basking in the sunlight of a good yes-man.

Wouldn't it be fun to get a sample of Arrogance *A* and Arrogance *B* on a Robinson Crusoe island for a few days! Maybe they would be just what the doctor ordered for each other. And maybe both of them would, when rescued, have frozen solid with superciliousness. At any rate there is something about both arrogance and timidity that sets off the sense of risibility in us and makes us grin. So maybe both have social values. Just maybe.

—*"Personal Efficiency."*

A Suggested Approach —

Step - By - Step

SELLING

By WALTER G. WRIGHT

Pres., General Tel. Co. of the S. W.

THIS PAPER has been titled "*Step by Step Selling*" and you may wonder what I mean by that term. I wouldn't want anyone to get the idea I am trying to encroach on the sales field of our supplier friends, nor do I wish to create the impression that I have any preference for step-by-step equipment over "all-relay," "cross bar," "XY," "rotary" or any of the many other types of switching equipment on the market. I merely wish to draw an analogy to a suggested means of approaching the problem of selling with the method of operation of a step-by-step dial system. I refer to the sequence of steps essential in the development of a successful sales program as being analogous to the sequence of switching steps required to complete a dialed call.

First, and very important, we have to be sold ourselves on selling. Next, everyone through the lines of organization must be sold on the importance of selling and be equipped to sell. Then we must sell ourselves to the customer, and finally we should then be able to successfully consummate the sale. Without taking all of these steps in their proper sequence, the entire sales program may fall flat.

The first and perhaps the biggest problem seems to be selling ourselves on the need for selling. In this business, at first glance, we seem to be faced with a paradox. We have been told for years, and we know, that the telephone business is unique in that the cost of doing business per telephone increases as more telephones are added to the existing network. This is definitely true, and you may well then ask, why sell telephones and hasten the day of diluted earnings?

Because of this, many owners and operators of telephone companies prefer to sit back and fail to take any action to inaugurate any type of sales program. They sincerely believe that it is in the company's interest to refrain from selling because of the so-called "diminishing returns" factor that so long has been associated with the telephone business. But there is an important phase of this problem, which we should not lose sight of, in overcoming this thinking, if we are to be able to sell ourselves on the necessity for selling.

I refer to at least two very important factors to bear in mind. First, it may be true that over a relatively short period of time our investment per telephone will increase, particularly during periods of rising prices, if we continue to add main stations to our network. But at the same time, we increase the value of our services, and thereby pave the way for justifying the repricing of our services. Even in the smallest community the service becomes more valuable with growth as the present subscribers (both business and residence) are able to communicate with a greater proportion of both the residences and businesses of the community.

Secondly, there are many items included in our sales program which tend to compensate for the factor of "diminishing returns." These items, when merchandised effectively, will go a long way in providing additional revenue to carry the increased investments we are worrying about.

A few items of this type are — *extension stations, increased toll usage, directory listings, bells, gongs, electronic secretaries* and other *spe-*

MASON COUNTY TELEPHONE COMPANY
INCORPORATED
No. 19 COCHRAN BUILDING
MAYSVILLE, KENTUCKY

RUTH KEHOE, PRESIDENT

TELEPHONE
LOgan 4-5501

July 8, 1955

Leich Sales Corporation
427 West Randolph Street
Chicago 6, Illinois

Attention: Mr. P. P. Barnes
Manager of Switchboard Sales

Gentlemen:

Subject: Kentucky 510-Mason County
Maysville, Kentucky

We enclose, herewith, check in the amount of $ 7358.49, as the final payment due on our Central Office Equipment Contract, as approved by REA in the amount of $ 73,213.52. Also, we are enclosing check in the amount of $ 526.08 to cover the accompanying invoices for additional central office equipment not covered by the contract, together with your two credit memoranda.

We will appreciate your execution of the three copies of REA Form 608, "Contractor's Receipt For Final Payment", retaining one copy for your files and returning the other two copies to us, in order that we may forward one copy to REA and keep the third one for our files.

We take this opportunity to tell you how very pleased we are with our new Leich central office equipment. We look with pride upon its contribution to what we consider a first class rural telephone system for Mason County. In addition, we shall always hold in high regard the cooperation and many courtesies of your personnel in bringing our project to a successful completion.

With many thanks for returning the REA forms, duly executed, and all good wishes,

Very truly yours,

MASON COUNTY TELEPHONE COMPANY

Ruth Kehoe

President

Enclosures

LEICH

We take this opportunity to tell you how very pleased we are with our new Leich central office equipment. We look with pride upon its contribution to what we consider a first class rural telephone system for Mason County. In addition, we shall always hold in high regard the cooperation and many courtesies of your personnel in bringing our project to a successful completion.

Thanks a million, Miss Kehoe

MANUFACTURERS OF TELEPHONES, SWITCHBOARDS AND RELATED APPARATUS SINCE 1907
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cial equipment Any one of these items usually produce increased revenue well in excess of the associated increase in investment.

Selling Employes on The Need for Selling

THE NEXT STEP in this sequence is that of getting the organization members sold on the importance of selling and properly equipping them to sell. A key point to make in selling an employe on the need for selling is to appeal to his self-interest by getting across to him that his own chances of moving into a bigger and better job is dependent upon the growth and expansion of the company.

This approach should provide the realization of the need for selling. We must then educate our people on what we have to offer and where we can offer it. Our company approached this by preparing an individual pocket sized sales kit. This kit contains rate information for the particular locality where the employe works, including local service rates and miscellaneous rates for extra directory listings, bells, gongs, cut-off keys, cords, deaf set amplifiers. Reference only is made to electronic secretaries, key sets, PBXs and PABXs as these items usually require a visit by a special sales representative qualified to quote tariffs and installation charges on such services.

I doubt that any of us are yet in a position in our exchanges to sell all types of services, including all auxiliary services which are on the market. Therefore, to avoid selling items which are not immediately available we have a card in the sales kits which lists those services which, for reason of temporary lack of facilities or other policy reasons, are not available for sale in that particular area.

To supplement this information, we use colored exchange maps for those exchanges in which restrictions on sales for any reason are to be imposed. The area of the map shaded in one color indicates the portion of the town in which telephone facilities are limited. Another color indicates the areas in which we may be completely blocked and no additional service requiring cable pairs or central office lines is available.

These maps are placed in the office so every exchange employe has access to them. By informing and educating our employes on where we cannot provide any upgrading of service, we help prevent possible poor public reactions.

Another major step in equipping our employe to sell, is to get over the importance of the employe contact as being the forerunner of the sale. There is no question but that the employe who is in most frequent contact with the public has the most opportunity to make sales. It is important, therefore, that such employes particularly be instructed on how to take advantage of these contacts for furthering sales. A company isn't the officers, the shareholders, or the directors: It is John Jones, the installer; Mary Smith, the operator; or Jean Johnson, the cashier; or Tom Brown, his acquaintance who works in the office.

Customer Contacts

THE CASHIER or business office representative is usually the first contact between the customer and the company wants these employes to turn these contacts into sales.

For example, when an application is made to disconnect, special effort should be made to determine the reasons for the disconnect and if possible to save it, as this is the equivalent of a new sale without incurring the cost associated with new connections. This is particularly true of the request for a disconnection from seasonal customers such as schools, teachers, cotton ginners, etc. We should be able to sell these customers on the advantage of taking a vacation rate rather than incurring a service connection charge later.

The station installer or repairman is offered great opportunity of face-to-face contacts and subsequent sales. This group should be instructed on the importance of observing telephone equipment location possibilities.

The service order is an invitation to come into the customer's home. Most salesmen of any other type cherish the mere opportunity to get inside the door because they realize that half of their sales effort is accomplished by the time they get into the house. Therefore, our installers have the hardest part of the sales effort behind them and should by the suggestion of extensions, bells, gongs, color instruments, etc., be able to offer the customer the means of getting more enjoyment and use out of his telephone. As one installer said, and I quote, "It's up to me to tell our customers about the additional services we have to offer. As I see it, telling is selling."

"The employe who contacts the public has the best opportunity to make sales."

"Selling The Company To The Public"

THE NEXT STEP of the program is for our employes to sell themselves. If our people strive to make all social and business contacts pleasant, and our customer is left with a good feeling, we have completed a selling job — the job of selling our

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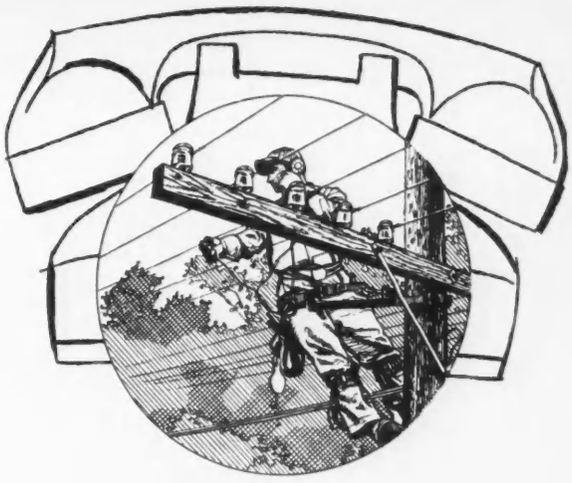
By BILL CORMAN



"When a business gets beyond the capabilities of one man, it is a big jump from there to the company which is large enough to maintain a staff of capable men to operate the business."

The "Awkward Age" of a Growing Company

HI, NEIGHBOR! A few weeks ago, I picked up a *Life* magazine and, as I imagine a number of you did also, read the condensation of the fiction story, "Cash McCall." Aside from it being a very good piece of fiction, it is also a rather pointed commentary on some modern facts of business life. At least one point applies very well to the telephone business, and it seems to me that the idea is well worth doing a little talking about.

At one point in the story, Cash McCall makes a remark to the effect that the present situation with taxes and other conditions surrounding business sets up the medium sized business as a perfect target for the prospective buyer to shoot at. He goes on to explain that when a business gets beyond the capabilities of one man to run the whole thing, it is a big jump from there to the company which is large enough to maintain a staff of capable men needed in the operation of the business. Saying it another way, a medium sized business is at the awkward age.

With the growth of the past 10 years, there are now a good many telephone companies getting into this awkward age, and it seems to me that we can well afford to do some thinking about it.

Having talked to men who own telephone companies with all the way from a few dozen telephones to a few dozen thousand, I am well prepared to make the statement that almost every one of them thinks he is at the awkward age. He looks back to when he had half as many as he has now and thinks how easy he had it then, and he looks forward to when he can have twice as many as he has now to help him over some problem such as financing, rates, hiring skilled labor, or whatever his particular problem of the moment might be.

And having been with a little company which has developed in 13 years from 300 stations to presently over 2400, I am also perfectly willing to state that there is no point along the whole line where things are easy. At every point there were problems, and it seemed that as we outgrew some of the problems of the *very* small company, we picked up at least as many if not more of the problems of the *plain* small company. No, I do not want anyone to construe what I will have to say as meaning that the little companies, or the big companies for that matter, do not have problems — I know very well that they do.

But the problem that Cash McCall touched on is the one that is involved when a telephone company gets too large for one man to *manage*. There is also a problem at the time when a telephone company grows beyond the size where one man can do all the work, but that is not the problem under discussion. We are talking about a company where one man can no longer do all the *managing* or about the time in a company's life where additional management people have to be hired.

There is no saying where this point is, in terms of stations, since management problems vary widely from company to company, but every company that keeps growing sooner or later reaches the point where additional management is needed. It is not easy to find.

Good management is expensive — one additional good management man will add considerably to the cost of operating the company.

It is hard to find — outside of pure luck, about the only way to get it is to hire it away from someone else or train it. For more than one reason not too many of us like the first course, and the second is long and costly.

After the additional person is hired there is a difficult transition period in which the question of who is going to be responsible for what must be

answered. Sometimes the delegating of a portion of his authority by the original manager is hard to do. We could go on, for the difficulties are many and often serious. The truth is that unless the two men get along exceedingly well together, a two-man management is often unsatisfactory. (If any of you reading this happen to know me well enough, you know that my Dad and I are perhaps the exception that proves the rule—together we manage a smooth operating telephone company which has built up at least a passable reputation for itself, and we have fun doing it.) But my guess would be that it is more often unsatisfactory than not.

When most companies, then, get to this point in growth, they gradually come to the conclusion that the most satisfactory way to manage a company from here on up is by a regular staff management setup. And the next conclusion it comes to, and much more quickly now, is that it needs to be considerably larger than it is now in order to support such a staff. This is the awkward age about which Cash McCall was talking.

When confronted with these problems and conclusions, the owner-manager who has built the company is in many cases deciding that his best way is to sell out. He gets rid of his problem, his profit is taxed only as a capital gains and he suddenly has a nice bank account—the picture is too good, and so another company is sold.

Consolidations and mergers are taking place all the time, and one of the principal reasons is this set of conditions we are talking about. Sales (and purchases) are one way to bridge the gap from one-man to staff type management.

The USITA Small Company Committee has for a number of years been indicating that consolidations and mergers of small companies into reasonably sized operations were steps in the right direction. But their reasons for promoting consolidations was to, in effect, get rid of the small company—to get the very small units merged so that they would have a better chance to be a successful operation. We are here talking about a different sort of reason, even though both lead in the same direction.

Some of you may recall that for numerous reasons and in various articles, I have deplored the disappearance of the small companies. I will not go into all of that again except to state that in a general sort of way, I still deplore it. I hope that for a long, long time there will be many companies in existence which are the one-man management type of company.

"The growing company soon reaches the point where additional management is needed."

But having said that does not dispose of the decision facing the company which has grown, in one way or another, past the stage where one man can do all of the managing that needs to be done.

"More Hours On The Job"

THE FIRST and natural and almost universal approach to this problem by the (one-man) management is for the fellow to start spending more hours on his job, doing more work, trying to spread himself to meet the requirements of his expanding responsibilities. With a few who possess both enjoyment of and capabilities for the additional work, this may prove an effective stop-gap for a while.

But it has disadvantages that become more and more apparent as time goes on. For one thing it becomes more and more difficult for the man to get off from work for any reason: Sundays, vacations, telephone meetings and conventions, etc. It gets to where he can't even afford to get sick; when he is off the job his company resembles a chicken running around without its head.

The final catastrophe comes when, for one reason or another, he has to quit—and his company is left high and dry and in pretty sad shape. As a stop-gap, and for a while, this approach may be all right, but its limitations should be carefully recognized.

The next step that is usually tried, again the natural and normal one, is for the (one-man) management to retain all final important decisions to himself, but to gradually heap more and more responsibility on one or two or three of his better employes. And while again this has certain advantages, it is certainly not the solution which is best in the long run.

The advancement of good employes is an excellent idea—my personal opinion is that it is something that must be done if a company is to remain healthy over a long period of time. If there are, among the company's employes, one or more who are capable of real management, then without question they should gradually be promoted into management positions.

Finding good management is like finding the proverbial hens' teeth, and if you find some in your own organization, you are just plain lucky and should certainly take advantage of it.

But finding real managers, and promoting them to real management is one thing, and this stop-gap we are talking about is something else. Promoting a man, or woman, into a management job without giving them the right to make the decisions accompanying that job may work for a while, but it is not the final answer. People who have jobs like that are not real managers—about the best you can do to find a title for them is to say that they are "assistants" to the manager, which is a very different sort of thing.

Additional "Real Management"

SOONER or later, at this stage in a company's development, the "later" depending on how well it can make the two above stop-gaps function, it must have additional real management. Generally there are two sources—the one discussed above (finding it in your own company), and getting it from outside some-

Please Turn to Page 64

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For ALL your Wire and Cable Needs

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NEOPRENE JACKETED DROP WIRE

The famous Whitney Blake wire that set a new high for service life. Available in twisted pair, parallel and twin constructions, with bronze or Copperweld conductors.

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Each individual conductor has No. 19 AWG soft copper conductors, polyethylene insulation and polyvinyl chloride jacket, completely color coded. Paired conductors are twisted around polyethylene-covered, high strength steel core. Excellent electrical qualities — easy to install — no cross arms needed. These wires offer the most economical temporary method of extending service in growing areas.

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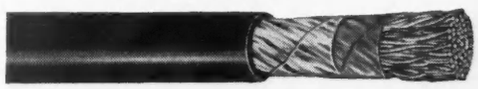

The Preferred Cable of the Independent Telephone Industry

For aerial and duct use. In all required sizes including 202 pair. Polyethylene insulation and polyethylene sheath. Gives long, trouble-free service. Excellent transmission qualities. Cable will operate even if sheath becomes damaged.

A FULL LINE OF CAREFULLY ENGINEERED AND MANUFACTURED WIRES AND CABLES IS AVAILABLE FOR YOUR NEEDS.

For easy installation . . long, dependable service . . even under high humidity conditions

6, 11, 12, 16, 21, 26, 32, 51 and 76 pair in No. 24 A.W.G.

6, 11, 12, 16, 26, 32 and 51 pair in No. 22 A.W.G.

The best cable available for wiring key equipment and for use in ducts. This cable has semi-rigid Plastite® insulation for greater compression resistance, reduced cold flow when cable is bent sharply. It is designed for easy pulling.

TELECABLE Inside Wiring Cable is completely color-coded for quick, easy identification. It is light weight, flame retardant, water resistant, unaffected by humidity.

Furnished with either brown or ivory Plastite jacket to blend with interiors when it is necessary for cable to be exposed. Provides a neat, inconspicuous installation. Available for immediate delivery — Order from Distributors of Whitney Blake Products.

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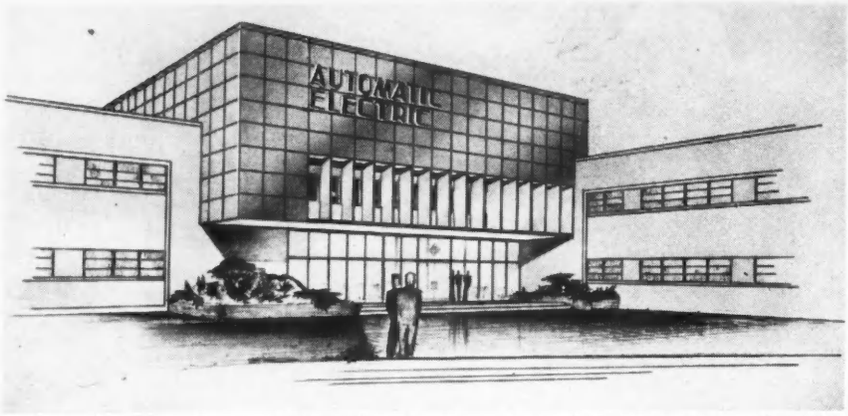


Artist's drawing of new $16-million factory, research laboratories and office facilities to be constructed by Automatic Electric Co. in Northlake, Ill.

Automatic Electric Co. Builds $16,000,000 Factory at North Lake

A NEW, multi-million dollar factory, research laboratory and general office structure will be erected by Automatic Electric Co. on the 170-acre site of the former Westward-Ho golf course located about 15 miles from down town Chicago in Northlake, Ill. L. H. Warner, president of Automatic Electric, reports the new facility is expected to cost in excess of $16,000,000 and be completed by late 1957.

The overall structure will contain approximately 1,300,000 square feet or 29 acres of floor space. It is designed for the utmost efficiency in manufacturing with adequate provision for any necessary future expansion.

Facilities devoted to factory operations will be on one floor, with a "straight line" production flow from the receipt of supplies and raw materials to the shipment of the finished product.

A railroad siding and truck docks for incoming materials will be located at the north end of the building, and all receiving and storing departments will be in this area. The machining departments will be located in the next adjacent area, then the stock rooms for temporary storage of manufactured parts and components, followed by the assembly line departments, and finally the packaging and shipping departments. At this end of the building will be another railroad siding and truck docks for the transportation of outgoing products.

Research and development laboratories, and the general, administrative, engineering and sales offices will be housed in an ultra-modern, air conditioned, two story building in the front portion of the plant facing east, and will consist of some 300,000 square feet, or about 7 acres of floor space.

Parking areas for approximately 3,000 cars will be provided.

When the new plant is completed, the company will be able to consolidate into one facility all its Chicago operations which are now housed in fourteen different buildings on the near west side of the city, in the vicinity of 1033 West Van Buren Street.

Automatic Electric began operations over 63 years ago in Chicago, when Almon Brown Strowger, inventor of the dial telephone and Joseph Harris, a Chicago salesman, formed a company to manufacture telephone equipment. The first automatic system, using push buttons instead of dials was installed at La Porte, Indiana in 1892, followed by the first telephones with dials at Albion, New York in 1896. The Bell System began converting to dial in 1919, with equipment developed and manufactured by Automatic Electric.

Affiliate companies of Automatic Electric are at Brockville, Ontario, Canada; Antwerp, Belgium; and Milan, Italy. Sales and service offices are located in principal cities in the United States and foreign countries.

Approximately 6,000 are employed at the Chicago factory and offices.

Growth

(Concluded From Page 62)

where. Getting such management will be the subject of a following article. The principal idea to this article is to point up the problem.

Many companies get to this point, and actually begin employing some variations of the above stop-gaps, without knowing what is happening to them. They grow into it gradually, over a period of years very probably, but the day inevitably comes when they can no longer get the calf over the fence, and they wonder what in the world has gone wrong. As in meeting all other problems, the principal and first step is to *recognize the problem*. It is impossible to solve anything if you do not know what you are trying to solve.

Look over the following list of questions. If you honestly have to answer "no" to very many of them, it may well be that you are at the point in the development of your company about which we are talking.

Can you still do all the civic and church work you used to do?

Is your record keeping as prompt and up-to-date as it used to be?

Can you take a vacation without worrying about your business?

Do things run smoothly when you are sick and off the job?

Have you done any public relations work recently?

Are you up to date on all the new developments in the industry?

Do you have time to read your trade journals?

Have you sat down quietly in your office for a couple of hours recently to think over the broader aspects of your business?

Have you thought any, within the past 6 months, of where your company will be a year from now, five years from now, 10 years? — ***Bill Corman.***

Vacuum Tube Voltmeter

TECHNOLOGY INSTRUMENT CORP., (TIC), 531 Main St., (Dept. TE&M), Acton, Mass., has prepared an 8-page brochure (No. I-105) describing features of its new extended range Type 800A and 800B Vacuum Tube Voltmeters. Attractively die-cut into the shape of the instruments, this brochure explains their operation and use in simple terms.

Remington Rand

BETTER BUSINESS METHODS

For Greater Profits Through Lower Costs

New Plan Solves Complex Revenue Accounting Problems

Eye-opening Case History Now Available...

A new folder showing how a typical company solved its revenue-handling problems is available to you on request. It shows how new procedures cleared the way for future growth and still cut costs.

The plan eliminates all sorts of toll billing problems. It includes a practical, new filing system which shows the paying history of each account at just a glance... a 100% electric *Simplified Toll and Subscriber Billing Machine* which computes the total toll charge and tax for each bill... a low-cost, 16mm Film-a-record Camera which records toll tickets and Summary Toll Statements on space-saving microfilm records.

Four Ways to Profit

New ideas have been combined with time-tested methods to give you:

1. Up-to-date records of revenues due.
2. Quick and economical collection of revenue.
3. Simplification of paperwork with no deviation from accepted accounting practices.
4. Fire protection of your vital source documents at point-of-use.

The plan in this case history is adaptable to any company at a low cost to revenue ratio. Flexible enough to meet your special needs, it can easily be adopted step by step ... always improving without disturbing your operation.

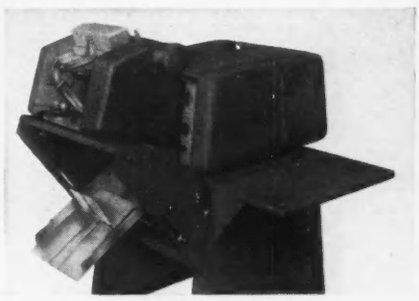
Send for CH1044 today, use the coupon for your convenience.

Customer Service Counter. An open, friendly station where customers are served promptly and efficiently while the clerk works comfortably seated. Errors through fatigue are minimized, and so are wasted motions. Ideal for single installations or a unified bank of stations for the larger company.

See a leading company's report on benefits derived from their new Remington Rand Customer Service Counter. Send for CH1039.

Unique method improves customer collections. With Kolect-A-Matic, one clerk – at one desk – handles all accounting for up to 3,000 accounts. Colored signals show the status of all accounts at a single glance – slow payers stand out. Safe-Desk provides point-of-use fire protection for your source of revenue.

Toll bills and subscriber statements on one machine. Here's the moderately priced, 100% electric, Simplified Toll and Subscriber Billing Machine. Features a special register that computes the total toll charge and the total tax for each bill.



Microfilm economies in time and filing space. Users testify that microfilming toll tickets saves enough to pay for the equipment in a year... boosts customer relations as well. Several models to choose from, including the new Model 8 Film-a-record: a low-cost, 16mm machine that handles 18,000 tickets per hour.

Remington Rand

DIVISION OF SPERRY RAND CORPORATION

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Please send me a copy of Booklet

CH1044 (complete plan)
CH1039 (service counter)

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– Profit-Building **IDEAS** For Business –

The letter "X" reaches gory heights when used to denote an accident.

By RUTH E. RICHARDS

Practical Safety Tips

For The Traffic Department

DID YOU EVER stop to think how overworked the "poor little" letter "X" is? From time immemorial, it has served as a romantic symbol for kisses; it serves in the place of a signature for one who cannot write his name; it is often used to denote an unknown quantity; and for the money-minded, it may be a "sawbuck," the Roman symbol for ten.

We X-out, or cross out, unwanted words or sentences on a printed document; we use an X to mark a ballot or otherwise signify a choice; and there are many more less frequent uses of the letter. But the letter "X" reaches gory heights (or depths) when used in a news item diagram or photograph to denote the spot at which an accident occurred or where a victim lay. It is to bring your attention to this use, and to the necessity for care, that you may avoid being the object of an "X," that this article is intended.

Again and yet again, we read the statement, "accidents don't just happen, they are caused," and over and over we hear the warning, "the life you save may be your own," but do we heed these cautions? It isn't my intention to sound like a prophet of doom, but only to recall to your mind some of the ways in which traffic people may be injured and suggest ways to minimize these dangers.

Many of the items to be discussed here, were suggested to me by the "Safety Code" handbook, prepared by the Long Lines Department of A.T.&T. for the guidance of its employes.

Beside each electrically cooled water fountain in the office where I work, there is a dispenser for paper cups. In line with a continuing Safety Program, carried on by our Company, these paper cups carry "Safety" messages imprinted on them. Currently the message reads: — "*Think — Practice — Talk Safety*" — and it is this positive approach to safety that I recommend to you. If each of us thinks and talks safety, we are much more apt to practice safety, for safety is everyone's business *all* of the time, during working hours and during off-the-job activities.

Injuries from Headsets

IT SEEMS almost like "making a mountain out of a mole-hill" to imply that an operator's headset could cause an injury, but the receiver portion of the set can cause a painful bruise if the headband is carelessly handled and the receiver snaps against the temple or against the bow of eyeglasses.

The safe and proper method for

"An operator's headset may cause an injury."

putting on or removing a headset is to use both hands — one to hold the receiver and the other to spread the headband. This will keep it from springing back against your face or head. (See *Figure* 1.)

The girl who wears glasses should be extra cautious in this action, for in addition to the possible hazard of broken lenses, there is the inconvenience and cost of replacement. Do not swing or drag the plug along the floor as you go to and from the switchboard.

A swinging plug can hit and hurt (and incidentally snag hose). When you plug the headset into the operator's jack at the position, be sure you grasp the plug by the shell. This simple precaution will avoid the possibility of pinched fingers. Now, seated at the switchboard, place the cord across your lap to prevent catching your heel in the cord.

Operators' Chairs

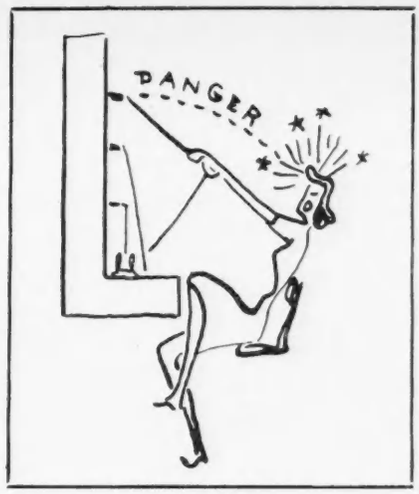
AS A STUDENT operator, you learned that your chair should be properly adjusted for height and position and that the supervisor would assist you to make this adjustment if necessary, but the responsibility for getting on and off the chair carefully is yours. At local positions especially, where chairs are apt to be adjusted to greater height, extra caution is needed to insure that heels or straps on footwear do not get caught in the chair rungs or between the rung and foot rail.

In a report covering injuries to telephone people, published by the American Telephone & Telegraph Co. in August of this year, a case is cited under the caption "Associated with Switchboard."

"Because the operator's chair was too high, she bumped her left knee against the underneath part of the switchboard keyshelf. She did not report the accident until three days later when the pain in her leg prevented her from sitting high enough to work at the switchboard.

"The employe said that she had consulted a doctor, but since the knee and leg was discolored and the veins looked puffed, the Chief Operator arranged for her to see a Company doctor. After several treatments she was able to return to her regular duties."

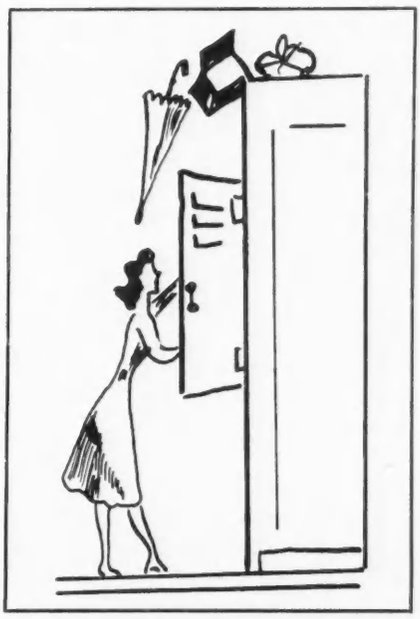
Switchboard operating is classed as one of the least hazardous of occupations, yet the potentials for injury exist in various pieces of equipment. Of course, it is careless use or misuse which creates the hazard, for instance, releasing cords in the wrong way. In addition to being contrary to good operating technique, it is dangerous to pull or jerk cords, or reach unnecessarily across an adjacent operator to disconnect a plug from a jack.



"It is dangerous to pull or jerk cords."

Injuries have occurred from jerked cords, which sometimes snap back and strike almost as if alive. It takes much less energy to correctly grasp a cord by the plug and release it, or if the reach is long, signal an adjacent operator to release for you.

You will recall the tale of the mother who cautioned her children against putting beans in their ears. The little darlings would not have thought of doing so, had she not given them the idea. Perhaps advancing the thought that spiral ticket holders or cord clips are not meant for holding fingers falls in the same category — but thoughtless operators have been known to hurt themselves by such idle dallying, so-o, don't!



"Keep articles inside the locker — not on top of the locker."

Pencil or poniard? Remember how — during your student days — you were taught to hold your pencil with the point covered by the palm of your hand when you were not writing? If, by chance, you thought the method just a foible of the instructor, or have just become careless in your handling, take a moment to think of the comparison between a sharp pencil point and a rapier — both can puncture and seriously wound.

Demonstrate to yourself by thrusting your arm out with a pencil in your hand, point out. Now imagine the result if the pencil collided with the hand or head of the operator next to you who may have moved into your line of action. A puncture wound to an eye or an ear could mean the loss of sight or hearing. When not writing, hold the *point* of the pencil *down*.

Levers

THE calculagraph is an ingenious device for timing toll tickets, but it can also pinch fingers or hands if carelessly handled. *Be sure* to grasp the lever firmly at the top, particularly the models with large upright levers. At other times, keep your hands clear of the calculagraph so they will be safe when another operator stamps a ticket.

Books and Bulletins

NORMALLY you would consider that reference material, in use all of the time in an operating room, would be free from hazard, and in most instances it is, but careful handling of heavy volumes such as the Toll Rate and Route Guide is indicated to avoid sprains or bumps.

Don't try to turn a rotary file into a merry-go-round. The metal leaves snapping together can ruin a good manicure in a hurry and incidently bruise fingers. Properly handled, it is an excellent working tool.

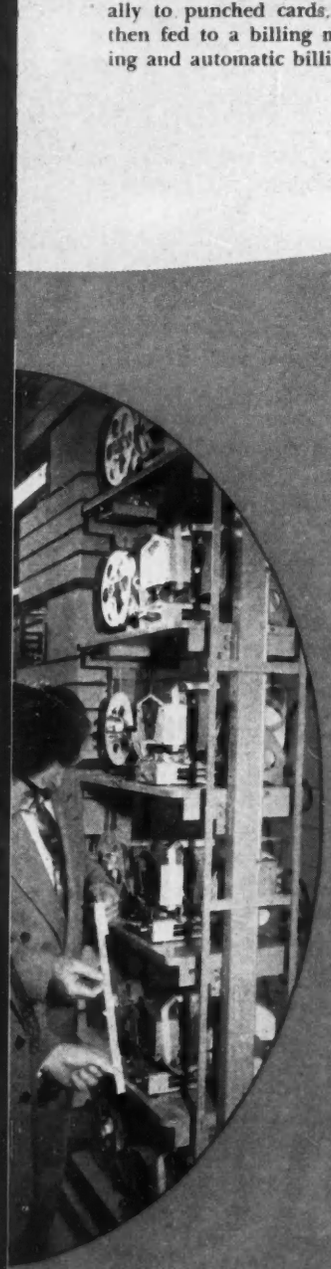
Watch out for broken or cracked plastic coverings on ready reference cards and report them promptly. The same caution applies to glassine envelopes covering position cards. Its true that such items are apt to cause

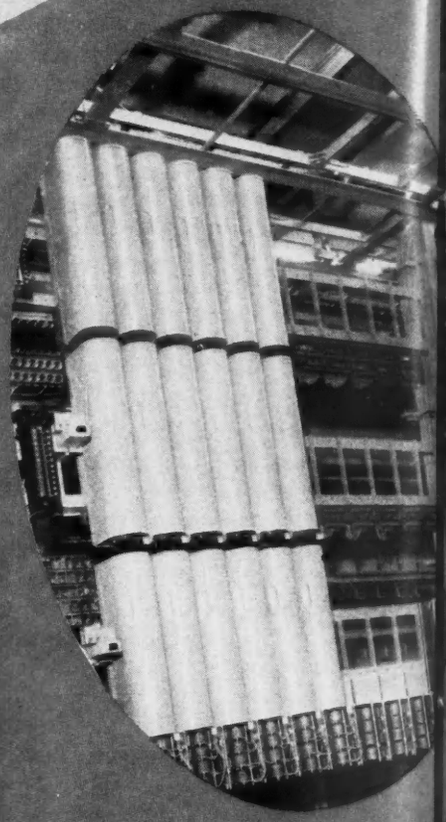
Please Turn To Page 70

PERMANENT RECORD of data needed for billing of calls, and record of SATT equipment units used, is contained in perforations on paper tape. Commercial personnel demonstrate how tape can be read visually for checking. For billing, it is sent to Middle States' machine billing center, where the data is transferred mechanically to punched cards. The cards are then fed to a billing machine for rating and automatic billing.

"SO THAT'S HOW IT WORKS!" (Left to right): Melvin Mills, Traffic Supt., Carl Prellwitz, Commercial Supt., Kenneth Hyatt, Eqpt. Supt. (describing operation of Pekin's SATT Ticketer); and Robert Long, Pekin District Manager. The Ticketer "remembers" the calling number, called number, and the length of call.

ELECTRICAL "BRAINS" controllin the routing of calls are called Tra senders. This equipment provides e ceptional versatility in routing, an high efficiency in handling heav toll traffic.





AUTOMATIC AE ELECTRIC

GENERAL SYSTEM INDEPENDENT

ORIGINATORS OF THE DIAL TELEPHONE

FIRST CALL dialed through Pekin's new SATT system is received by Sen. Everett Dirksen, in Washington, D. C.

With the successful inauguration of its Strowger Automatic Toll Ticketing system at Pekin, Ill., the Middle States Telephone Company becomes the first Independent to offer its subscribers Nationwide Direct Dialing facilities.

Pekin begins nationwide customer dialing with SATT!

It's 12:01 AM, Dec. 4th. Visitors and telephone executives watch expectantly as Illinois' State Sen. E. B. Groen dials Sen. Everett Dicksen in Washington, D. C. Seconds later, he begins the first Nationwide Customer Toll Dialing call ever originated in an Independent exchange!

Pekin's new SATT system enables 10,795 subscribers to dial 18 million telephones in 14 states and the District of Columbia. Working with a new Strowger Automatic exchange, it provides fast handling of toll calls without operators, plus accurate, automatic recording of call data for economical punched-card billing. It is the only long-haul automatic toll ticketing system that permits automatic identification of stations on 4-, 8-, and 10-party lines.

SATT'S success at Pekin chalks up another achievement for Automatic Electric engineers. Insure success for *your* automatic toll ticketing project — consult these experts of proved ability. Address: *Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7. Or call HAymarket 1-4300.*

Thompson Field Research, the most extensive in the industry, now tells you the best way to destroy all mixed brush and hardwood growth during the dormant season . . . effectively . . . economically.

Thompson's proven spray techniques and its Broad Spectrum Bramblcide deliver almost complete kills at unequalled low cost.

In addition to the economy, and better employment of manpower, dormant season basal bark control (and stump treatment) is free from the possibilities of danger to susceptible crops and helps to further public good will.

Many of the world's largest users of herbicides specify Thompson, one of America's few basic manufacturers of selective herbicides. Inquire.

Write for Research Station Papers No. 19 and 21, mentioning type of brush to be controlled and number of miles of right-of-way involved. Favorable utility chemical prices submitted on request.

Thompson Chemicals

THOMPSON CHEMICALS CORP.
St. Louis 3, Mo. • Los Angeles 27, Calf.

FIRST NAME IN BRUSH KILLERS

"X" MARKS THE SPOT

(Continued From Page 67)

only minor cuts, but even a paper cut is unpleasant enough to be avoided whenever possible.

Good Housekeeping

"SEE A PIN and pick it up, all the day you'll have good luck" — so goes the old saying. Whether it is lucky or not to pick things up, is questionable, but there can be no doubt that the pick-up habit contributes to safety, for slips and falls can often be traced to misstep due to an object on the floor.

In the operating room, pencils, clips, sleeves, etc., should be picked up at once, but be sure to get off your chair to do so, if it is high. Do *not* lean down from your position and risk having the chair slip from under you due to imbalance. Notify the supervisor, if you cannot conveniently retrieve the dropped article.

Telephone Cord As a Lariat

IN THE AT&T. report previously mentioned, there is an account of an accident listed under "Slips and Falls — Telephone Cord," in this instance an Acting Supervisor suffered a fracture of the right elbow resulting in a time loss of two months.

The employe, acting as a supervisor in the Ticket Arranging Group went into the Rating Group to pick up completed tickets. As she was standing by the desk of the senior rating clerk she stepped on the telephone cord between the connecting block and the base of the telephone. The cord was barely touching the floor. As the employe turned to leave the desk, she caught both feet in the cord causing her to fall on her right side and elbow. At the time of the fall, she was carrying an armful of toll tickets. This type of accident emphasized the need to inspect the work area continuously for hazardous conditions. Such conditions should be remedied before accidents happen.

Remedy: Telephone should be placed far enough from the edge of a desk or table that the cords will not loop and dangle close to the floor. Supervisor headset cords, because of their extra length, should be carefully handled. Perhaps the most-apt-to-be-dangerous cords are those of fans (or possibly auxiliary heaters) placed on stands or on the floor (unless the cords are run in fixed metal channels). Fans, especially when connected to a distant outlet by means of an extension cord, are often an accident source because they are used seasonally, are moved about in the room, and employes are not used to thinking of a hazard at a given spot.

From the operating room to the locker room, the restroom, lounge and on out of the building, the path of the traffic employe may be a safe or a sorrowful one according to the care she exercises.

Safe usage indicates that clothes and hat compartment lockers are for wearing apparel and are not intended for general storage. Doors should be closed at all times except when placing or removing garments. Following this rule will not only keep the room looking more orderly, but will eliminate the danger of bumping into the sharp edges of the open doors. Keep articles to be stored on the *inside* of the locker, *not on top*. Falling items can cause painful bumps and bruises. (See *Figure* 3.)

In the lounge, as elsewhere, good manners and good posture are fine team mates. Sitting on the arm or on the edge of a chair isn't proper and it is dangerous. Your weight may cause the chair to tip and result in a fall. When sitting remember that an extended pair of feet create a stumbling block to other people.

Don't play with matches isn't just an admonition for children. Do you know that the temperature of the flame at the head of a match, at the moment of striking, is 1600 degrees, Fahrenheit? That's *hot* in any language. Always heed the warning printed on match books, "close cover before striking" and remember to strike a match away from you.

So-o, if you are a smoker, remember that even though the building you work in is fireproof, you and your clothes are not. In addition to the safety factor, save yourself the annoyance and cost of cigarette ash burns in your clothes by exercising caution. Remember that smoking near a fan or where a breeze strikes you should be avoided — hot flying ashes can cause a painful burn.

And now as you are ready to leave

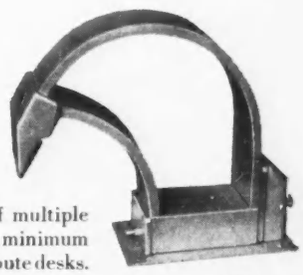
Put rates and routes at her fingertips

You can with WHIZ Tubes—new, low-cost pneumatic ticket tubes! This fully automatic system rushes toll tickets between switchboard and rate and route desk at 25 ft. per second. Small, compact sending and receiving terminals are as convenient to the operator as her jack panel.

WHIZ Tubes, engineered and installed by International Standard Trading Corporation, associate of International Telephone and Telegraph Corporation, are of simple design—permitting use with both private and toll exchanges. By combining pressure and vacuum, this system reduces space and power requirements to a minimum. There are no cumbersome revolving parts. A unique feature is corrugated tubing—assuring greater reliability by reducing the effects of static, friction and humid air on tickets en route.

Would you like facts and figures on just how much time and money WHIZ Tubes can save in your telephone operation? ISTC engineers would be happy to show you—with no obligation.

Operator inserting ticket in vacuum sender. Pressure senders are similarly flush-mounted in the rate and route desk. Recessed pressure receiver at right, below the jack panel, has just delivered a ticket.



Compactness of this automatic vacuum receiver permits the mounting of multiple banks of units in a minimum of space on rate and route desks.

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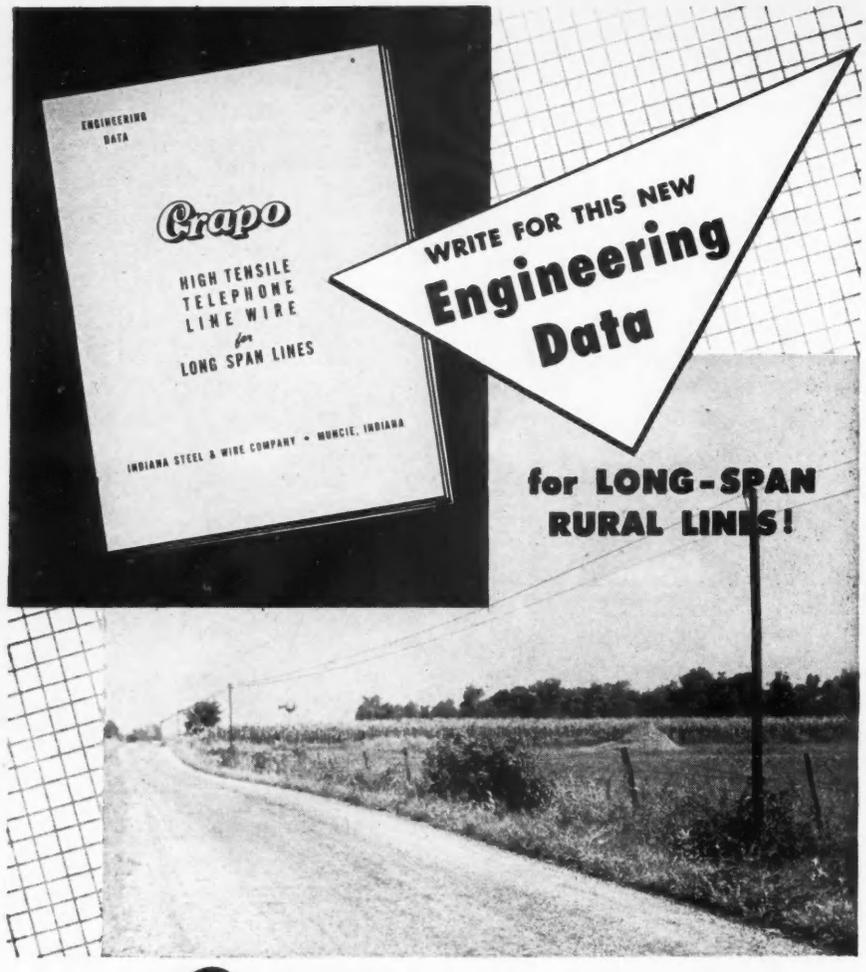
22 Thames Street, New York 6, N. Y.


ENGINEERING DATA
Crapo
HIGH TENSILE TELEPHONE LINE WIRE for LONG SPAN LINES
INDIANA STEEL & WIRE COMPANY • MUNCIE, INDIANA
WRITE FOR THIS NEW
Engineering Data
for LONG-SPAN RURAL LINES!

SPECIFY *Crapo* HIGH-TENSILE TELEPHONE LINE WIRE FOR LOWER OVERALL COST

Crapo HTL-85 INDIANA STEEL & WIRE CO. MUNCIE, INDIANA U.S.A.

For Medium Long Spans

Crapo HTL-135 INDIANA STEEL & WIRE CO. MUNCIE, INDIANA U.S.A.

For Longer Spans

Crapo HTL-190 INDIANA STEEL & WIRE CO. MUNCIE, INDIANA U.S.A.

For Extra Long Spans

● FEWER pole structures are required where *Crapo* High-Tensile Line Wire is used in building rural telephone lines. This means substantial savings in time, labor and material. There are fewer holes to dig and poles to set, less material to be handled, installed and connected — all of which contribute to lower overall construction costs.

Crapo High-Tensile Line Wire also makes for lower maintenance costs. Its superior tensile strength offers increased resistance to ice and wind loads . . . provides a greater margin of safety. Heavy galvanized coatings assure dependable, lasting protection.

For maximum savings in the construction and maintenance of rural telephone lines, specify the *Crapo* Telephone Wire which best fits your requirements.

LATEST ENGINEERING DATA, including Stringing Sags and Tensions, Staking Tables and Guying Tables for Heavy, Medium and Light Loading Districts, are now available. Write today for your copy of Data Book No. N-53.

INDIANA
STEEL AND WIRE CO., MUNCIE, IND.

the building, continue to think and practice safety. Let the painful experience of an operator in New Jersey be a warning to you. This is the account of her unhappy experience: "The employe had completed her tour and was descending the stairs from the second floor. At the same time, she was looking into her handbag for change. When she reached the landing she lost her balance and fell down the remaining stairs. At the Medical Department, the employe received treatment for contusions of her left wrist and shoulder. Employes were again instructed to give full attention to their travel on the stairs."

We are told that falls on stairways are one of the leading causes of non-traffic injuries. Some of the things that cause falls are, failure to use the handrail, running up and down stairs, and obstacles on stairways, such as pencils or match cases (paper clips on tile floors turn your shoes into led runners). If you are carrying a bulky package, take care to keep your line of vision free.

Remember — your attitude toward safety practices will go a long way toward keeping you accident free, and the methods that make your job safer will help keep you safe all of the hours of the day. If you are a believer in mottos, why not adopt this for your own — Safe Today — Alive Tomorrow. — See you next Month.— ***Ruth E. Richards.***

D. B. White Heads South Carolina Assoc.

CLEMSON, S. C. — D. B. White of Myrtle Beach was elected president of the S. C. Independent Telephone Assn. as the organization closed its two-day convention last month. He succeeds W. D. Wilkinson of Greenwood.

F. S. Barnes Jr. of Rock Hill was elected vice president. R. E. Seymour of Greenwood was re-elected treasurer, and R. S. Durant of Rock Hill was re-named secretary.

Re-elected to three-year directorships were: H. W. Askins of Chesnee and A. O. Bolen of Swansea. Elected to the board to succeed his father was F. S. Barnes Jr.

Other directors are: C. B. Barksdale, Greenwood; Charles Bell, Chester; S. A. George, Lexington; E. W. Hart, Hemingway; S. S. Hemly, Moncks Corner; Gordon Saunders, Sumter; T. Carter Thomasson, Lancaster; and White and Wilkinson.

PLANTER OF SEED

BY Thomas Hart Benton

Thanks to the telephone, there's one farmer who will get his seed planter repaired in time to start making a cash crop.

Getting needed service is only one of the many benefits the telephone brings to any farmer. And the Telephone Directory plants seeds for more efficient work and more comfortable living.

If your company serves rural subscribers, take a look at your present Telephone Directory. Does it give a farmer *all* the information he wants in the Yellow Pages? Could improvements be made with the problems of the farmer in mind?

One of our representatives can be helpful to you in answering these questions. For the Loomis Advertising Company is retained by many companies that successfully serve rural areas.

It is Loomis' business to build bigger and better directories, tailored to meet the needs of the communities they serve. The result, in every case, is more net revenue for the telephone company.

You owe it to your subscribers, your employes and yourself to find out the advantages of Loomis' Complete Directory Service. Write or call the Loomis office nearest you. There's no obligation on your part.

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Over 785 cities and towns in 20 states are served by 257 Loomis-built directories.

We have commissioned Mr. Benton to draw four scenes of American Life. A limited edition of 9 x 15-inch prints suitable for framing has been ordered. We think they offer a nice public relations touch to your telephone office decoration. To get your Benton print FREE, write Wesley H. Loomis III, 810 Baltimore, Kansas City, Mo.

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Any organization finding its productive day disrupted by liberal absenteeism within its employe staff faces upset work schedules and general disruption of planned routines.

By ERNEST W. FAIR

There is no single cause of absenteeism. The most effective solution to the problem is recognition of the most common causes as they apply to each worker individually.

How To Reduce

The Absentee Problem

ANY UTILITY organization which finds its productive day disrupted by liberal absenteeism within its employe staff faces a hazardous day. Carefully laid out work schedules can be shattered. The smooth operation of the organization can be disrupted to the point where the problem is a serious one.

There is no single cause of absenteeism. Studies show it averages from 2 per cent to 20 per cent or more. The most effective solution to the problem is recognition of the causes of absenteeism, finding these causes as they apply to each individual worker each time he is absent and taking steps to reduce them by removing the causes wherever possible to do so.

Here, in paragraphs to follow, is a list of the most common causes of absenteeism and what can be done about each.

Minor Illness — The studies made by medical societies have revealed that the most common cause of absenteeism by means of illness is the common cold and its associated discomforts. In many instances the cause lies outside of the work area but it has been shown that a recognizable percentage of the causes have been uncovered right in such work areas.

Where management has located this as one of the major reasons for its absentee problem it has been found that a large percentage have, on the other hand, been caused by drafty or damp working conditions. Wherever worker absence is noticed on the rise because of such minor illness it will pay any unit of management to make an immediate survey of possible steps to be taken in eliminating such causes immediately.

Assurance of Job Security is recognized as one of today's greatest causes of absenteeism. Where the individual employe is certain in his own mind that he will not lose his job because of an occasional absence now and then he is much more likely to accept any excuse as a reason to stay away from work.

Too soft a policy in handling such cases encourages other employes to take the same course. Assurance of job security does much to increase employe morale, of course, but there should always be a small evidence of doubt in that employes mind. If the individual is certain his "playing hookey" will run the risk of losing his job he is much more apt to think twice before laying off for some personal reason.

Outside Interests often cause absenteeism. Where employes have side projects to add to their income it has been noticed that absenteeism is high. Whenever opportunity arises to make more profit at this outside activity than could be made in the day's work in any department we are apt to find such absenteeism present.

Such "second jobs" should be definitely discouraged and the employe told to make his choice between his job in our organization and his outside job or sparetime activity when it becomes obvious that this is the reason for his absenteeism. In some instances low wages force employes to take this step; we have little to complain of under such circumstances.

Low Morale On the Job. Where

***New* from INTERNATIONAL...**

New "go-anywhere" light-duty 4-wheel drive truck!

Here's the four-wheel-drive truck you've been waiting for! Here's a full-size, all-purpose truck you can use to go anywhere.

On or off the road, this new INTERNATIONAL S-120(4x4) will take the toughest grades in stride—fully loaded, it will move entire 7,000 lbs. of truck, body and cargo through soft sand, mud or snow. It's made to match all light-duty 4x4 jobs *exactly* with choice of 2 engines, 3 pickup and 2 stake bodies. Has exclusive INTERNATIONAL power take-off transfer case, plus optional power take-off transmissions for auxiliary equipment operation, is available in 6 tire sizes, including 7:00x18 for extra clearance and 9:00x16 for extra flotation and traction.

This newest INTERNATIONAL is all-truck built for rough, tough four-wheel-drive service . . . built to save you the BIG money, the operation and maintenance money. Before you buy any light-duty 4x4 truck, see and drive this one at your INTERNATIONAL Dealer or Branch!

INTERNATIONAL HARVESTER COMPANY • CHICAGO

A Complete Line of Light and Medium 4x4s for Every Tough Job Need

S-140(4x4). 11,000 lbs. GVW. Has 4-speed transmission and 2-speed transfer case, for 8 forward and 2 reverse speeds. 2 transmission power take-offs. Provision for third on transfer case.

S-160(4x4). 15,000 lbs. GVW. Has same transmission and transfer case as S-140 model, and like S-140 and S-120 has famous full-size Comfo-Vision cab and exclusive INTERNATIONAL features for easiest four-wheel-drive steering and handling.

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All-Truck Built to save you the BIG money!

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working conditions are unpleasant or the individual has no liking for his job the smallest excuse will give him a chance to stay away from that job. Locating such a reason is difficult because of the reluctance of the individual to admit it; usually this reason has to be discovered through questioning of fellow employes.

Remedies include a program of increasing the worker's interest in his job, doing everything possible to take the monotony out of his daily chores, and provision of incentives in awards or wage increases for application to the work involved.

The paycheck alone is not enough to keep the average worker's morale alive. He must like his job, like the people with whom he works, his supervisors and the company.

In many cases job shifts will make work more interesting to the individual and deter him from staying away from his job.

Poor Supervision has been shown to be the cause of absenteeism in many areas. Where foremen, supervisors (and yes, even executives themselves) are frequently absent for the smallest excuses we can hardly expect employes not to follow the same path when the opportunity presents itself.

Executive personnel must be impressed with this responsibility. They should be shown that only the gravest condition should be an excuse for absence from their posts. The example they set in this respect has much to do with what course the men and women working under them will follow.

Not only should such foremen and supervisors practice this rule faithfully but they must impress its importance on each individual under their supervision. Where the worker knows his supervisor will not particularly care if he plays hookey on a given day we can be certain he will do so at the first opportunity.

Long Hours are extremely difficult to enforce today. Where work schedules make it impossible for an employe to ever enjoy his favorite sport, have a picnic with his family or even have an evening out he is being encouraged to absenteeism.

Consideration of this condition is necessary in scheduling work hours in any business today. It has been noticed that where employes have an afternoon or day off (other than Sunday) in which to fish, play golf, be in their workshops, plan family outings, etc., there is a marked reduction in absenteeism.

"How would you like to swap me your job at the telephone company for just one day?"

Job Shopping has been uncovered as another frequent cause of absenteeism. Where paychecks are low the percentage is high. Where working conditions are unpleasant it is always noticeable.

When it becomes obvious that this is a cause of absenteeism management must act or suddenly find itself searching for a number of replacements. It is always a cause to look for whenever absenteeism takes a sharp rise.

Such a condition also calls for a quick analysis of the reasons why such employes are job shopping; finding the causes and if possible making adjustments to remedy this condition.

Work Too Heavy is listed as another frequent cause of absenteeism not only due to fatigue on the individual worker which encourages him to stay home from work but which induces him to go job shopping.

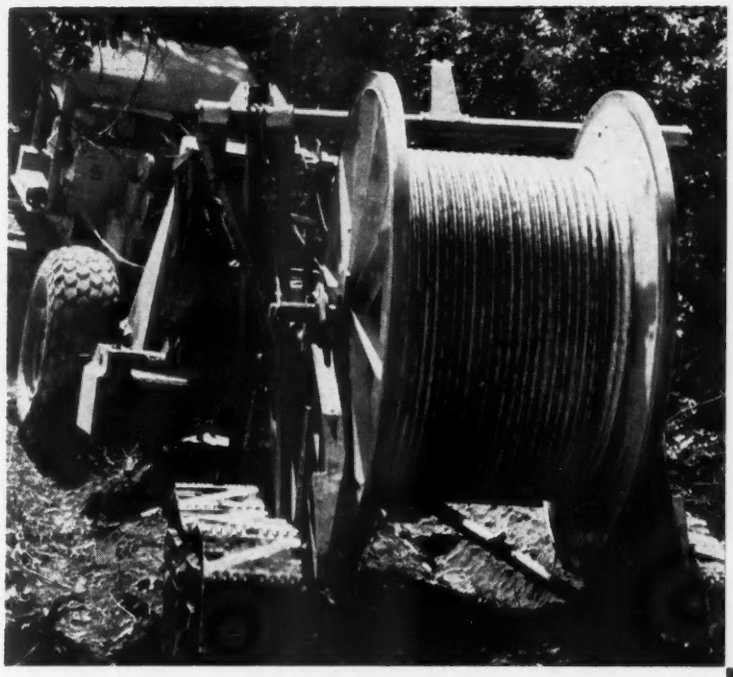
Anxious as we may be to secure more work from each individual employe we can be certain that piling too heavy a load on his or her back will be a sure way to step up absenteeism.

The opposite extreme is of course an unprofitable one. Best remendy is to locate the happy medium which will return a profit from the wages paid the individual worker and still not prove too heavy a load for that individual to carry. — ***Ernest W. Fair.***

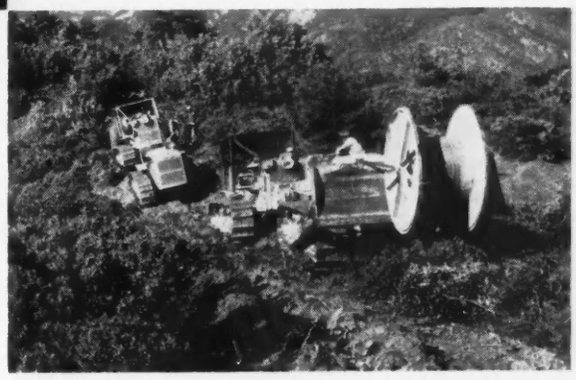
Battery Manual

A NEW 48-page manual on lead acid batteries for all types of motive power application has been issued by C & D Batteries, Inc., Conshohocken, Pa. The book was compiled by C & D's Headquarters Service Department and includes photographs, charts, tables, methods of repairs, maintenance and salient points on theory of operation, instructions covering repairs with regular or special tools, simplified testing methods including safety practices acid handling precautions, and instruction on correct charging methods.

The new manual is cross-indexed for easy reference and includes a suggested list of spare parts required to make immediate repairs.



Modern Cable Construction



Section VI-A of Mr. Reed's article discusses (a) face plate type terminals, (2) fuse and protector-block type terminals; and (3) cable terminals with binding post blocks.

By JOHN S. REED

CABLE terminals designed for pole or wall mounting have long been standard for telephone cable installations. The most commonly used sizes are 11-, 16-, and 26-pair through terminals as small as 3- and 6-pair and as large as 51-pair are available.

Terminals for outdoor installation generally consist of a metal housing with a face plate or binding post block for connecting cable pairs to drop wires or to jumper wires which are in turn connected to open wire lines. The housing is equipped with a cover or hood to protect the face plate or binding post block from the weather elements. Mounting brackets are provided for attaching the terminal to pole or wall as required.

Typical cable terminals are illustrated in *Figures* 108 *to* 114. Cable terminals are of the unprotected or protected type as required by the location of terminals in the cable lead and connection to open wire or long drop leads. Protected terminals are equipped with fuses and protector blocks or protector units without fuses.

Old type cable terminals such as the one shown in *Figure* 107 had wooden face plates which caused trouble by absorbing moisture and warping or splitting. The old round type terminal with double wooden face plates and cast iron bracket was considered to be particularly bad from an appearance standpoint due to the difficulty of properly running a large number of drop wires without creating a tangle of wires. Modern day cable terminals have more durable face plates and are better equipped to accommodate any number of drop wires for connection to the binding posts.

FIG. 107: — Old type cable terminals such as this one presented a bad appearance and had wooden face plates that caused "wet shorts" on damp days.

Cable Terminals — Face Plate Type

FIGURES 108 to 111 illustrate cable terminals for pole or building mounting that are equipped with face plates of bakelite or porcelain. These face plates have raised bosses at the binding posts to increase the surface distances between the posts and reduce surface leakage. The posts are sealed in the face plate to eliminate moisture leakage into the core box. A sealing gasket also prevents moisture entry through the joint between the face plate and the housing.

These terminals are equipped with

An exciting new idea for Christmas giving...

Telephones as Christmas gifts! It's an idea introduced by telephone companies a couple of years ago. And it's especially interesting *this* year with beautifully colored telephones available for kitchen, bedroom or hobby room . . . for every member of the family. The advertisement across the page tells the "new telephone story" in color to millions of readers of December magazines. It sells the idea of telephones around the house as well as telephones in color. And the more convenient it is to use the telephone, the better business is for telephone companies everywhere.

"I HAVE THE NICEST HUSBAND"

Many a man would like to hear his wife say that. So here's a tip.

Get her one of those new kitchen telephones that hang on the wall.

Convenience is just the half of it. She'll be so proud!

It will be a conversation piece in more ways than one. Especially if it's in color.

Bell Telephone System

THE XMAS GIFT THAT RINGS A BELL. *For mother, daughter, dad or son, a telephone in the kitchen, bedroom or hobby room is a swell Christmas gift...one that keeps on giving the whole year through.*

"slip on" covers with chain to enable complete removal and retention of the cover while connections are being made in the terminal.

The terminals are available from the manufacturer with or without stub. When the stub is installed by the telephone company, instructions are generally furnished for the correct procedure of wiping the stub to the terminal housing or nozzle and connecting the cable conductors to the binding posts. Depending on the manufacturer's recommendations and telephone company practice, the core box may be further sealed with heated cable compound after the face plate is attached and sealed to the housing with the gasket provided.

The terminals are provided with wire channels for bringing the drop or jumper wires into the terminal. Fanning strips at the side of the face plate separate and guide each wire to its proper binding posts.

Six-pair and 3-pair cable terminals are very useful for rural connections along a farm cable. The 3-pair size illustrated in *Figure* 110 is especially handy for this purpose since it avoids the necessity for running open wire back from a cable junction and along the cable lead for serving rural subscribers along the route of the lead.

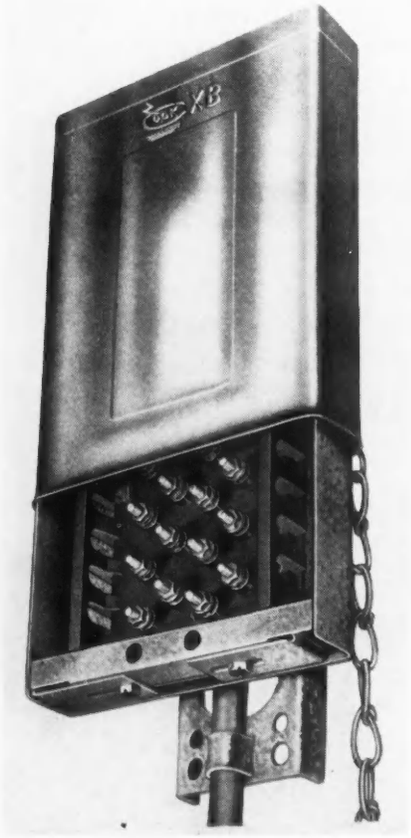


FIG. 108: — Cook Electric Company's XB type unprotected cable terminal for lead covered cable. This terminal has bakelite face plate and "slip on" cover and is designed for pole or building mounting with stubs entering through top or bottom of core box. Note patent weather guards for excluding snow, dirt, and insects.

Cable Terminals — Fuse and Protector Block Type

THE CABLE terminals just described are of the unprotected type designed principally for connecting drops in urban districts. In these locations subscriber station protectors along with central office protection devices are adequate to prevent damage from contact with foreign electrical sources such as power lines and street lighting circuits.

In the case of open wires connecting to cable pairs, additional protection is needed at this point. If unprotected terminals are employed, a ten-wire arrester is needed for each crossarm of wires to reduce damage from lighting and power contacts. This applies particularly when the open wires are over one-half mile long or where lightning storms are frequent, as they are likely to be in many sections of the country.

FIG. 109: — Cook Electric Company's PLX type cable terminal designed for plastic jacketed cable. The unique construction of this terminal enables looping cable in and out of terminal and looped conductors can be connected directly to binding posts.

Many companies have the long established practice of providing fuses as well as protector blocks or arresters in cable terminals at junctions of open wire with cable. At least one company has been using 5-ampere fuses and 6-mil protector blocks in cable terminals at open wire junctions with 19 gauge cable.

When the cable is 22 gauge or smaller, the fuses are not used, reliance being placed on a short section of 24 or finer gauge cable in the entrance cable to provide the fuse element. Additional protection is obtained by using auxiliary or "buffer" protection, 3 spans to one-half mile away from the junction. Ten-mil blocks are employed in the buffer protectors and multiple ground rods

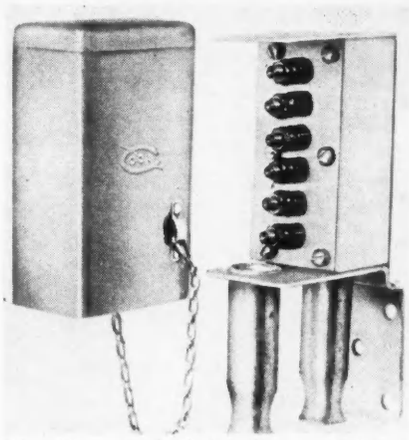


FIG. 110: — Cook Electric Company's 3-pair cable terminal for use on farm cable leads where not more than three drops will ever be required for rural connections at a single point. This terminal eliminates the need for running open wire from a cable and open wire junction back along the cable lead.

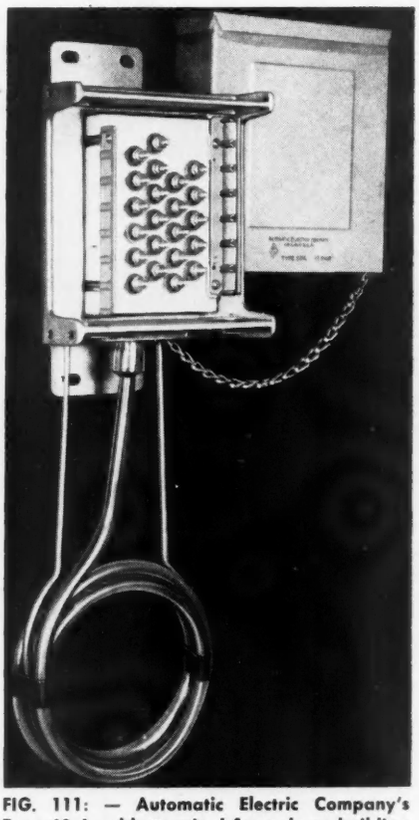


FIG. 111: — Automatic Electric Company's Type 60-A cable terminal for pole or building mounting with stub guard for protecting cable stub from damage while carrying. (This guard can be removed after installation.) This terminal features porcelain face plate and molded rubber shutters to protect wires from metal edges of housing. Openings for wires are shielded to keep out dust and insects.

Telephone by Kellogg Switchboard & Supply Company

Christmas begins in seconds...

When does Christmas come? Perhaps it arrives at your house when the tree is trimmed and lighted...the carols sung... the gifts exchanged and opened. But isn't there someone, somewhere, whose Christmas begins only with your voice? Now, and throughout the year, you can give this precious gift so easily. A long distance telephone call costs so little. And, short of being with them, nothing brings you closer to those you love.

More than 30,000,000 long distance calls will be made during Christmas week—one out of five through an Independent company. Because the lines of all 5,000 Independents and their neighbors in the Bell System are completely inter-connected, you can call anywhere, anytime.

INDEPENDENT

Independent Telephone Companies of America

United States Independent Telephone Association • Pennsylvania Building • Washington, D.C.

are installed for the lowest possible ground resistance. Such an arrangement has reduced lightning damage to a very low figure.

The cable terminals shown in *Figures* 112 *to* 114 are designed to accommodate fuses and protector blocks.

The terminal illustrated in *Figure* 112 features a self-soldering nozzle located to the rear to bring the cable stub back of the drop wire or jumper wire run into the terminal. The nozzle has an internal solder sleeve with flux to facilitate soldering of the cable stub to the nozzle. The mounting base of open construction back of the terminal to prevent accumulations of dirt, snow or ice between the terminal base, is shaped to fit the pole, making it unnecessary to gain the pole when installing the terminal. Drop or jumper wires enter the terminal through individual insulating knockout holes in the bottom, which prevent entry of birds, insects, and dirt.

Metal fanning strips with insulating bushings are mounted in front of the cable chamber to assure orderly arrangement of the drop or jumper wires. A sealing plate with gasket closes the front opening of the cable chamber and can be removed as required for access to the interior. A spring guide holds the hood securely in the raised position when making connections in the terminal or checking the protectors and fuses.

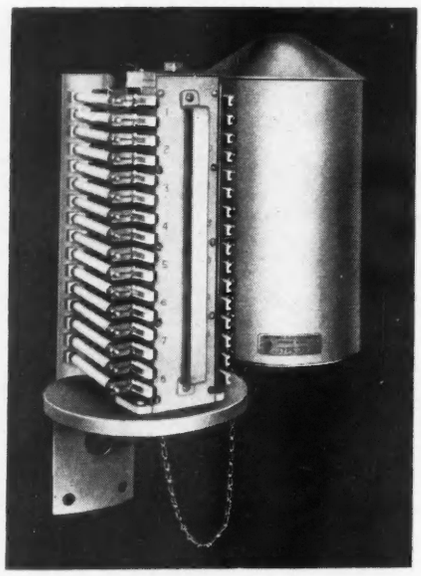


FIG. 113: — Automatic Electric Company's Type 35 protected cable terminal designed to use 3-ampere fuses and new type 70 "Dollar Saver" self-grounding, self-clearing discharge blocks. This terminal is available with or without cable stubs as desired.

A novel feature of this terminal is the use of individual protector units (Transmounts) which can be placed as needed. It is suggested that one extra protector unit be provided on a vacant pair so that the pair can be put in service immediately when the plant man does not happen to have an extra mount available on his truck. An individual protector unit is illustrated in *Figure* 115. Fuses with 5-ampere power rating and 6-mil discharge blocks are used in the protector unit.

The protected cable terminal in *Figure* 113 has an aluminum core box and galvanized hood, base, and frame. It is available in 11-, 16-, and 26-pair sizes. The protector blocks are of the self-grounding, self1clearing type with 5.5 mil air gap, designed to short out the arc and prevent damage to the blocks, as well as to the cable. This unique protector block is illustrated in *Figure* 116 and its operation is explained in *Figure* 117. Type 17 (3-ampere) wood fuses are used in this terminal.

A smaller version of the protected terminal is shown in *Figure* 114. This is a 7-pair protected flat mounting terminal designed for pole or building mounting. The terminal has a detachable bracket which is bolted in position and the terminal is then placed on it. Three-ampere fuses and self-grounding self-cleaning protector blocks are employed for the protective elements.

Cable Terminals With Binding Post Blocks

THE GROWING practice of maintaining cables under continuous gas pressure has made necessary the use of gas-tight cable terminals. The terminals illustrated in *Figures* 118 *to* 120 which have reinforced cast resin binding post blocks are of this

Please Turn To Page 84

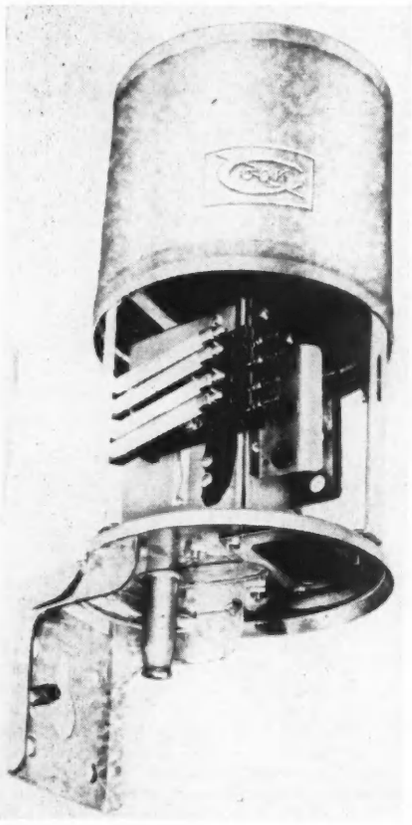


FIG. 112: — Cook Electric Company's S-20 type protected cable terminals for use at junctions of open wire with cable. This terminal is designed to accommodate Transmount protector units.

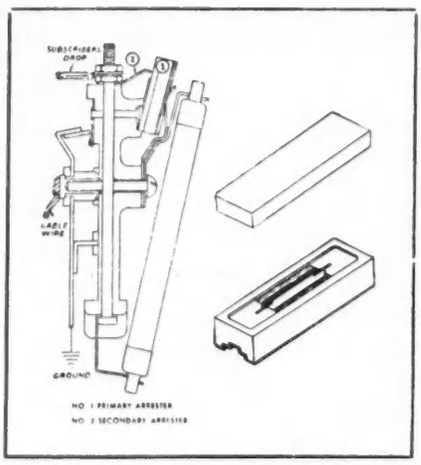


FIG. 115: — Cook Electric Company's Type H protector unit used in Cook S-20 Type protected terminal. At right is the Tru-Gap discharger assembly used as primary arrester in the protector unit.

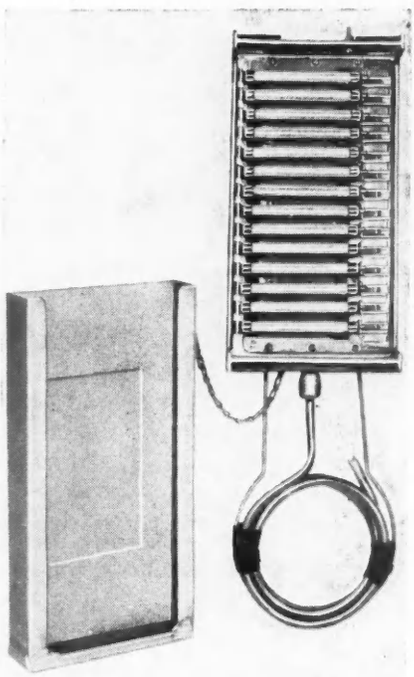
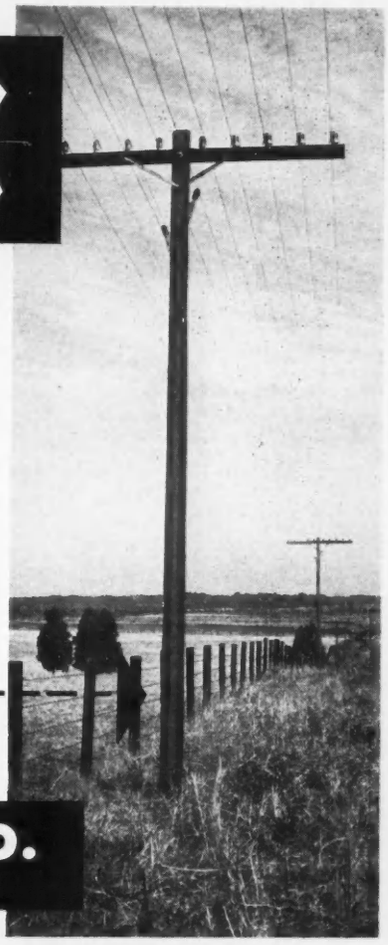


FIG. 114: — Automatic Electric Company's Type 40, 7-pair protected cable terminal for pole or building mounting.

THIS BRAND ON YOUR POLES ALSO BRINGS YOU . . .

T-C

THE BEST IN
PRESERVATION



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When Taylor-Colquitt stamps its familiar "T-C" on a Pole you can be sure you are getting a pole that will last for generations . . . Here's why . . . every T-C pole is quality controlled from the pine forest to the outbound loaded car. Developed and refined during the 30 years Taylor-Colquitt Company has been a producer of fine poles, these controls assure you of uniform, high quality and consequent maximum life.

For the Best in Preservation Specify T-C Poles.

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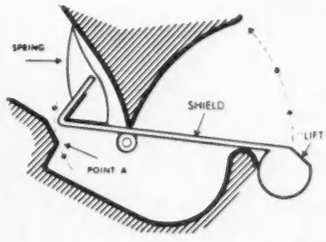

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*Patent Pending WRITE FOR CIRCULAR 455-A

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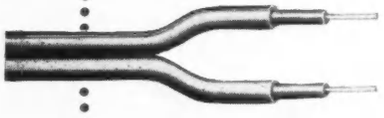

Parallel Figure 8

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Modern Cable Construction

(Continued From Page 82)

type. Such terminals, of course, can be installed on cables that are not maintained under gas pressure as well as those that are.

The terminals illustrated are 26-pair size and are available with 24 gauge stubs of standard or special lengths, lead-covered or plastic-jacketed. They are intended for pole mounting only. Eleven and 16-pair terminals of similar construction but designed for strand or pole mounting are also available. These will be described in another part of the series.

Figures 119 *and* 120 clearly show the component parts of the unprotected and protected types of terminals. The protector units indicated are of the fuseless type and no fuses are used. The novel construction of these protector units is depicted in *Figure* 121. The blocks are of the

Correction

THE AUTHOR wishes to correct an erroneous statement made on the method of connecting cable conductors to terminal posts in the Channell Cable Terminal described on page 66 of the August 15 issue of "*Telephone Engineer & Management.*"

As pointed out by the Channell Cable Splicing Machine Co., the conductors are not pieced out as stated, but the main cable is looped in and out of the terminal, and the conductors are terminated directly on the back of the faceplate without cutting the conductors or removing the insulation on paper, pulp or the later types of plastic insulated cables, as shown in *Figure* 95(*a*).

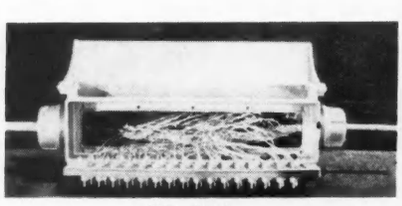

FIG. 95-A.

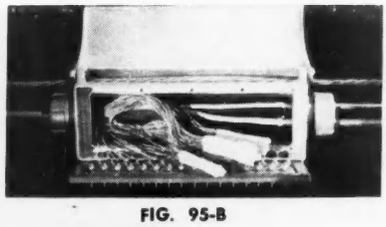

FIG. 95-B

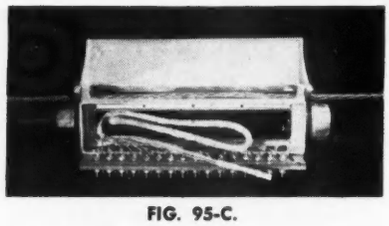

FIG. 95-C.

In the case of branch cables, the cable is brought in at either end instead of at the bottom as shown in *Figure* 96, page 65, the latter method having been discontinued. (*Figure* 95(*b*) illustrates the method of bringing in the branch cable with the main cable.) The branch cable pairs can be terminated directly on the face plate or be spliced into the main cable if not in the terminal count. Eighteen inches of slack is left in the main cable when the terminal is placed. This slack is drawn into the terminal, looped to the end of the terminal and butt spliced to the branch cable. This provides slack to be used to terminate conductors on the back of the face plate.

For end terminals, a solid grommet is placed on the end of the terminal as shown in *Figure* 95(*c*). According to the Channell Company, the method of looping the cable in and out of the terminal and terminating without cutting the conductors is covered by United States patent.—*John S. Reed.*

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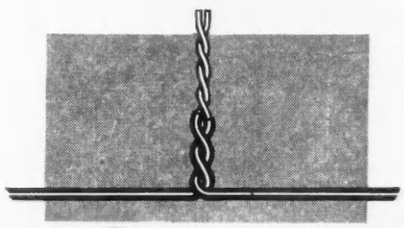
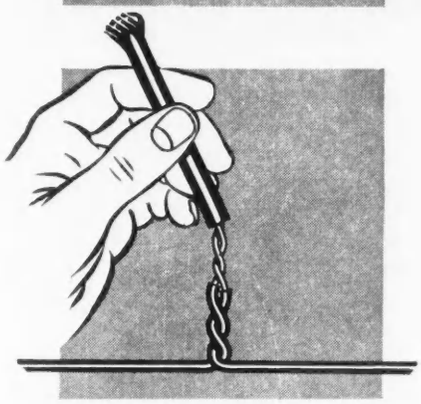
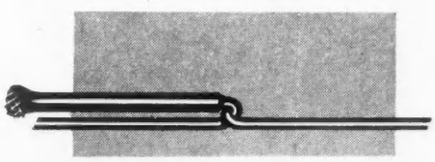
"Super-Splice"

(Patent applied for)







Now . . . soon after the introduction of SUPERIOR all-plastic sheathed and insulated cable the new SUPERIOR "Super-Splice." The plastic device is "factory-filled" with a positive sealing agent which maintains the same consistency at both very high and very low temperatures.

This vastly improved method of splicing is the result of extensive research and has been subjected to exhaustive underwater tests.

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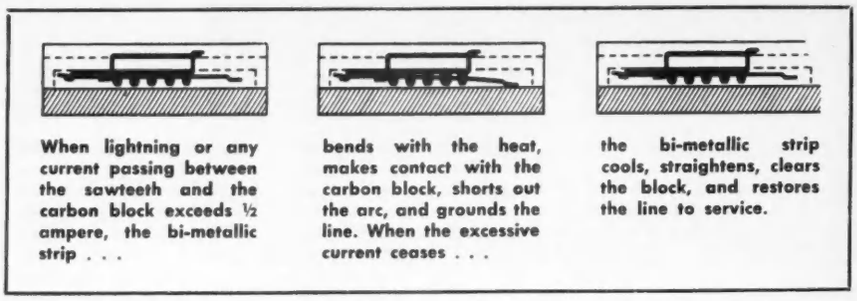


When lightning or any current passing between the sawteeth and the carbon block exceeds ½ ampere, the bi-metallic strip . . .

bends with the heat, makes contact with the carbon block, shorts out the arc, and grounds the line. When the excessive current ceases . . .

the bi-metallic strip cools, straightens, clears the block, and restores the line to service.

FIG. 117: — Illustrating novel operation of the Type 70 protector block on abnormal voltages.

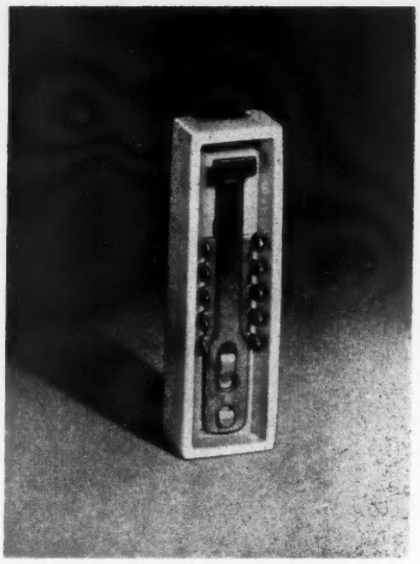


FIG. 116: — Automatic Electric Company's Type 70 "Dollar Saver" discharge block. Note bimetallic strip with sawtoothed metal discharge element.

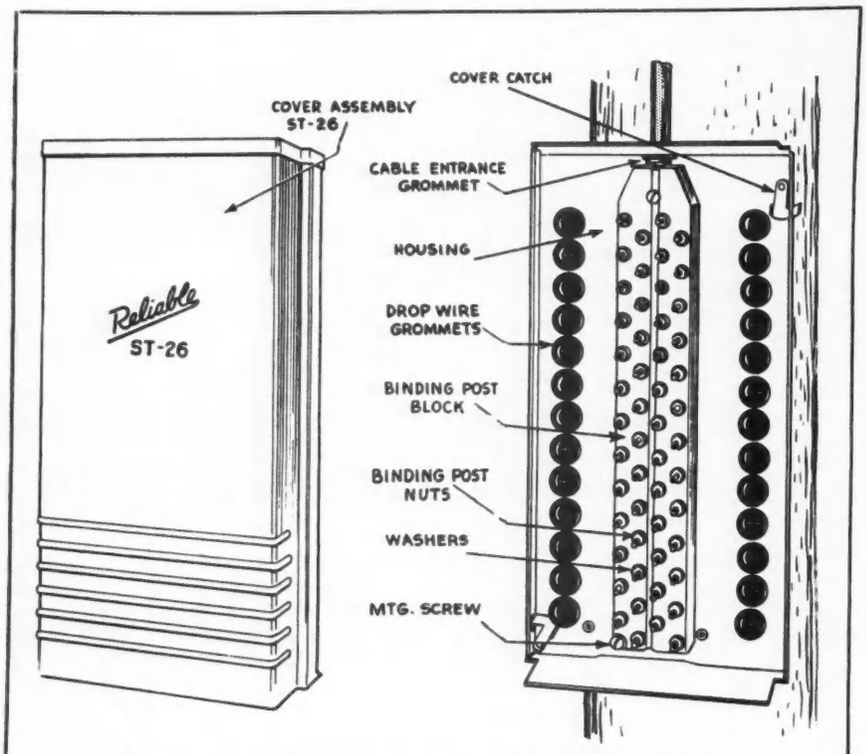


FIG. 119: — Showing component parts of Reliable Electric Company's Type ST-26 unprotected cable terminal.

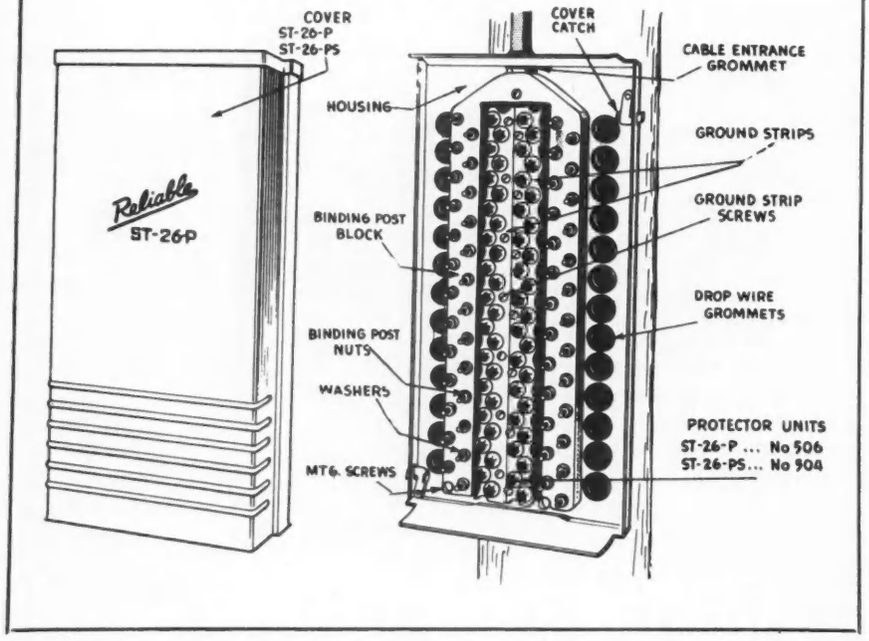


FIG. 120: — Construction of Reliable Electric Company's ST-26P protected terminal. The ST-26PS indicated requires different type of protector units and different designation on cover for building installation where station type protection is required.

6-mil gap type when the terminal is installed at junctions of cable with open wire. In the case of protected terminals installed on buildings, station protection is obtained by using blocks with 3.5 mil gap.

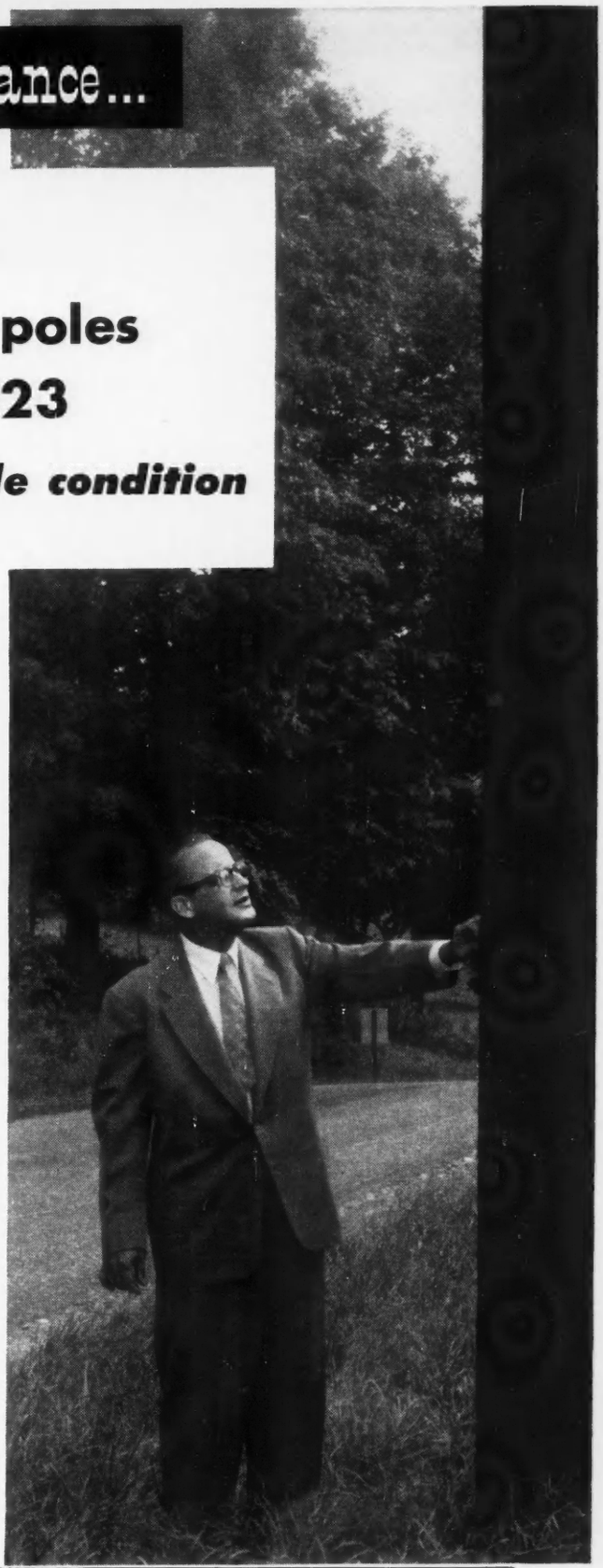
The operation of the fuseless protector units is as follows. When a cross with a high voltage power line occurs, the current surges across the gap between the blocks to ground, heating of the alloy pellet from the arcing current causes the pellet to melt, bringing a metal cylinder inside the body assembly into contact with a spring operated disk inside the cap assembly and shorting out the arc.

FIG. 118: — Reliable Electric Company's Type ST-26P protected type cable terminal for pole and wall mounting.

Here's Proof of Performance...

Over 99% of pressure-creosoted poles installed since 1923

still in very good, serviceable condition



• All over the country electric and telephone utilities are taking advantage of the long-lasting properties of pressure-creosoted utility poles. Take the example of the New York State Electric & Gas Corp., Binghampton, New York.

Mr. H. L. Livingood, Distribution Engineer, tells about their use of pressure-creosoted poles. "It's hard to say when we started using pressure-creosoted poles. We set a few as far back as 1888, though we didn't start using them in real quantity until 1923. By 1931 we abandoned untreated poles altogether.

"It's difficult for me to estimate the service we expect from the creosoted poles, since they've already lasted over 30 years. We have had to replace a very few, far less than one per cent. We don't anticipate setting up a replacement program for creosoted poles until about 1960. And even then we expect that only a very few will be ready for replacement. So if you ask me to estimate the life of our creosoted poles, all I can say is, considerably longer than 30 years."

As this excellent case history proves, in many, many instances the life of pressure-creosoted poles far exceeds the expected 30 years. For more information on pressure-creosoting, and on USS CREOSOTE, get in touch with our nearest Coal Chemical sales office, or write directly to United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

Mr. Livingood points out one of the 1923 poles. Pole is still strong, good for many more years of service.

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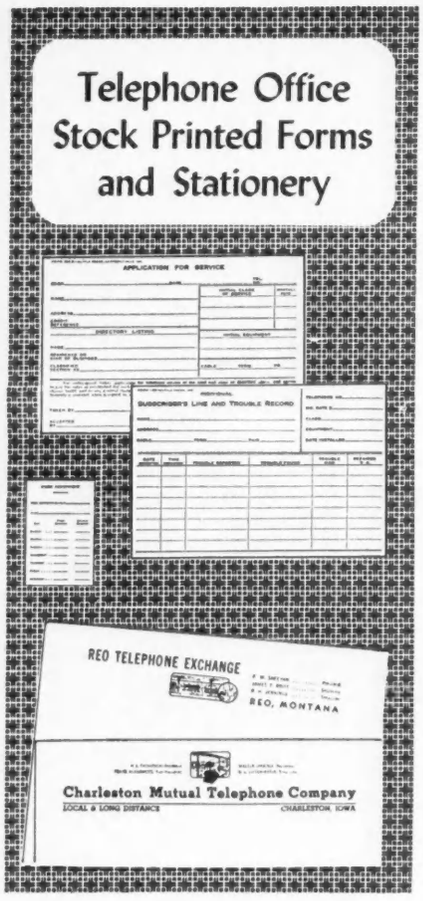

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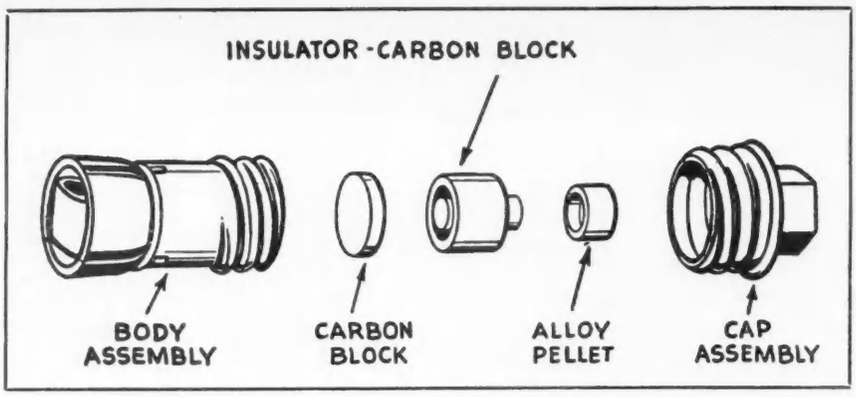

FIG. 121: — Reliable Electric Company's 504 (3.5-mil) and 506 (6-mil) fuseless protector units for ST type terminals.

The solid ground thus obtained enables a high current to flow and cause the power overload protector devices to operate and de-energize the power line.

Cross Connecting Terminals

CROSS connecting terminals or pole houses as they are also called have been given mention in an earlier section of the cable construction series. They are designed only for cross connecting between cable pairs for flexibility in the cable count and to provide cable relief when this is needed. *Figure* 122 illustrates a typical pole house designed for 26 in-and-out pairs. This is a wooden pole house provided with zinc top and hardware, weatherstripping for doors and painted green outside and white inside. The type of pole house shown can be obtained to accommodate up to 100 in-and-out cable pairs. Metal pole houses are also available.—*To Be Continued in the January, 1956, issue of "Telephone Engineer & Management." Section V of this series was concluded in the Sept., 1955, issue.*

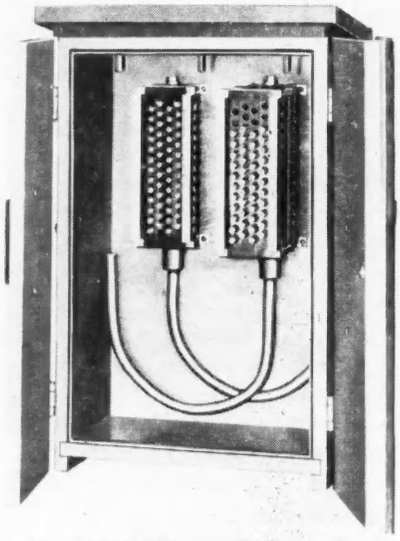

FIG. 122: — Cook Electric Company's pole house for 26 in-and-out cable pairs each.

Bankers Make TV Visit to Bell Laboratories

A LOOK into the future of the telephone business was given to members of the Investment Bankers Association at their annual dinner meeting in New York Wednesday night, Oct. 19, via closed circuit television visit to the Murray Hill, N. J., buildings of the Bell Telephone Laboratories.

Dr. Mervin J. Kelley, president of the Laboratories, who was in New York, and Dr. Ralph Bown, vice-president, served as "guides" for the visit, part of an "Hour of Industry" program that the American Telephone & Telegraph Co. was asked to put on before the dinner.

Dr. Bown said that scientific research in the field of semi-conductors that led to invention of the transistor at Bell Labs opens up new fields in the technology of communications. Since the vacuum tube may require 100,000 times as much power as a transistor doing a similar job, transistors are becoming increasingly important in telecommunications.

It was pointed out during the telecast that the smallness of transistors shows the way to reducing switching equipment to one-tenth its present size and could lead to electronic telephone exchanges.

The bankers were also informed that the Bell solar battery is very close to being practical and economical in telephony which requires small amounts of power.

In addition to the Murray Hill visit, the bankers were given a panoramic picture presentation that traced the development and growth of communications in the United States.

Questions and ANSWERS

Conducted by Jay G. Mitchell

IN THIS ISSUE Mr. Mitchell discusses — (A) The Question of Frequency; (B) An Annoying Case of Trouble; (C) A Preferred Arrangement; and, (D) Application of a Formula for Decibels.

QUESTION: — *In reading the series of* QUESTIONS AND ANSWERS *we have noted that the precise evaluation of the telephone transmission effectivity is based upon the use of an alternating current of pure sine wave characteristics at* 1,000 *cycles per second which is generated by an especially built generator. It is clear to us that this is essential if accuracy is to be expected. It is noted, however, that in the recent series on "The Decibel Calibration" all of the tabulations are computed without limiting the results to any such specific frequency. We have accordingly assumed that* 1000 *cycles, in all probability, is a reasonable weighted average of the frequencies involved in telephonic audio transmission and that circuit and plant effectiveness will, for that reason, be shown with reasonable accuracy by the readings of the Multitester type of equipment in ordinary day to day maintenance.*

ANSWER: — In the material on "The Decibel Calibration" it was stated that transmission measurements as a basis of an *evaluation of plant facilities* should be made with equipment especially designed for the purpose but that the *same principles were applicable* as had been set out and that more refined equipment than a multitester and more precise methods, coupled with somewhat wider experience, were essential. One component of the especial equipment that is required is some form of generator producing what is equivalent to a pure sine wave of 1000 cycles per second and, in most cases, adjustable artificial transmission conditions that may be compared, when necessary, with the transmission facility under test.

As a general thing the results obtained by thoughtful and painstaking use of the Multitester type of instrument will be in accord, substantially, with the results obtained by the more exact and more refined equipment and, in extreme cases should be supported by them. In other words if the day by day tests by the Multitester show serious transmission faults the plant facilities concerned should be thoroughly evaluated by standard transmission studies, before any drastic action is taken or any notable expense in plant modification is undertaken.

QUESTION: — *This telephone company has recently added to the equipment of the engineering department an instrument of the multitester type which has been found of value in many routine testing operations. In fact it has been possible to make rough tests of many kinds with it with a very considerable saving of our time and with sufficient accuracy in most cases to provide the basis for quick maintenance of outside plant. Almost daily new ways have been developed for its use in our four offices as an aid in plant maintenance.*

We are writing however to ask if you might make some suggestion to apply to the situation that has suddenly developed. The instrument has suddenly become entirely useless. By that we mean that the pointer absolutely does not move to the slightest degree when the testing leads are connected for any one of the several voltage and ampere readings. We can, of course return the instrument to the factory but since it has not, to our best knowledge, been dropped or exposed to any known mishap we would like to have your comment before doing so. Thank you very much.

ANSWER: — This inquiry is very similar to another one received recently and must be answered in the most conservative way because any explanation at long range can, obviously, be a more or less informed guess and not an actual solution since there are so many possibilities involved. The manufacturer of the equipment is not given so that typical peculiarities may not be considered. Questions and Answers (1st add) ....

On this rather unsatisfactory basis the following comment is submitted with a request that another inquiry be sent in with complete details if the matter is found to be not as will be suggested. In this type of equipment the connections of the instrument for *all its ranges* are made by means of prods connected to the instrument by flexible wire leads. Since the instrument has not been dropped or damaged in that way but is unresponsive in all ranges, therefore, it is at least probably that either one or both of the testing prod leads may be open. On that basis the testing leads and prods should be tested for continuity. It is quite likely that one or both may be found open when a careful resoldering job will restore the instrument to use. This was actually found to be the case recently in another location and it is submitted for consideration on that basis. QUESTIONS AND ANSWERS would appreciate another letter from this company if this happens to be the solution of the trouble in their case.

QUESTION: — *There is available to our engineer several sets of*

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ANTRAC...a portable skypath for Uncle Sam's voice

ANTRAC (Radio Set AN/TRC-24) is a multi-channel portable communications system that links points 25 to 30 miles apart which, because of rough terrain or other adverse factors, cannot be bridged by wire and cable.

Produced by Western Electric from designs developed by the Signal Corps and Bell Laboratories, the ANTRAC radio set—conceived as an extension of the Spiral Four communications system — provides twelve voice channels. This is the first time a completely integrated wire and radio system of such large channel capacity has been available for tactical use by the Armed Forces.

To meet field requirements, the equipment is packaged in convenient transit cases, with a 45-foot antenna mast divided into nine easily assembled sections.

All in all, ANTRAC illustrates very clearly how telephone technology continues to work for national defense . . . not only by contributing to such developments as radar and guided missiles . . . but by serving in the field of military telephone communications, as well.

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tables relating to the interpretation of the Decibel. Without exception these tables list the decibel figures in the left hand or index column and the volts associated with them in the other columns. This is the exact reverse of the arrangement set out in the discussion of The Decibel Calibration which has been appearing in TELEPHONE ENGINEER & MANAGEMENT *and, as an arrangement for ready reference, is less desirable than the plan set out in* TELEPHONE ENGINEER & MANAGEMENT. *Will you comment on this fact giving the reason why you have used the first described arrangement rather than the one used in the data available to the users of some printed pamphlets which are intended to provide the same information?*

ANSWER: — The answer to this very intelligent inquiry falls into several statements which are as follows:

(1) As was pointed out recently there are are *six* recognized quantitative definitions of the decibel. When the A.C. voice transmission voltages are known the calculation of the decibels *on any one of these six* bases is very simple. In telephone and associated types of transmission *only two* of the six bases for the decibel are in common use.

(2) A sensitive A. C. voltmeter is much more likely to be available in telephone maintenance equipment than correspondingly sensitive Decibel Meters of the desired type of scale calibration.

(3) Volts is a well understood term and introduces no complications in discussion and may be interpreted into any decibel definition desired.

(4) *Power* in the electrical world is dependent upon the voltage (squared) and the impedance, directly proportional to the first and inversely proportional to the second and the *same* power may be expressed in any of six decibel scales.

(5) Therefore QUESTIONS AND ANSWERS prefers to ascertain the *power* first and this is determined by the volts and the impedance and for any given conditions is a *constant*.

(6) For these reasons it seems advisable to determine the voltage and then to compute the decibels.

QUESTION: — *Our engineers have been very much interested in the discussions of THE DECIBEL CALIBRATION that have appeared in* TELEPHONE ENGINEER & MANAGEMENT *for some time past. Because of this we are submitting an inquiry which did not originate in the activities of our people in the telephone industry but arises from some literature made available from an associated field of activity, the field of closed circuit television. In a recent pamphlet we encountered the statement that the input voltage of some equipment was 10 times the output voltage, a loss of 20 Decibels. No doubt this statement can be fully substantiated but we would appreciate an explanation which will provide an understanding in agreement with the material on the Decibel Calibration that has been most interesting.*

ANSWER: — This is a very welcome inquiry as it emphasises the value of the voltage approach to intelligence transmission loss or gain in communication equipment and facilities. In setting out the tables which have been published the emphasis was purposely placed on the A. C. voltage and through the voltage the relation of the energy involved as expressed in watts. *However it is to be remembered that the most common type of instrument for transmission studies is the voltmeter.* In other words a Decibel Meter may not be available when a sensitive A. C. Voltmeter is. The readings of the voltmeter can be quickly and readily converted to Decibels by a simple calculation. Now in any given impedance it will be remembered that the watts expended are proportional to the square of the volts and inversely proportional to the impedance.

In other words the power ratio is ascertained by a comparison of the

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watts expended with the standard reference number of watts *or by a comparison of the number of volts squared in the two* loops under comparison. Therefore the power ratio may be determined by comparing watts or by comparing volts *squared.* Now when the input voltage is ten times the output voltage the power ratio loss must be obtained by *squaring* the input and output volts and 10 squared is 100. The logarithm of 100 is 2 and ten times 2 is 20 which is the Decibel loss. If this is not clear please write in again but it is believed that an inspection of the several Decibel tables published will make it clear. In other words the power ratio is directly proportional to the watts and therefore also to the *square* of the volts. The conversion to decibels is made by multiplying the logarithm of the power ratio by 10 it will be remembered. The ratio between the watts and between the squares of the volts must be the same for any given condition. —***Jay G. Mitchell.***

Facsimile Equipment Tested Over Telephone Channels

FIELD TRIALS of facsimile equipment of various manufacturers over telephone circuits normally used for full period message service are being conducted by the Bell System, it was learned last month. Such tests, it was understood, are currently being carried on by the American Telephone & Telegraph Co. Long Lines Department, the New York Telephone Co., and the Bell Telephone Co. of Pennsylvania.

The Long Lines Department has for a number of years been furnishing channels for facsimile transmission under its regular tariffs using customers' terminal equipment, principally in the press field. A Long Lines spokesman pointed out that "based on possible customer demands there has been experimenting with various types of facsimile terminal equipment. No conclusions have been reached."

Bell of Pa., at its Western area plant school, is conducting field trials for the West Penn Power Co. between the latter's Pittsburgh headquarters and Charleroi office, a distance of around 20 miles, and plans similar field tests in its Central and Eastern areas. Bell of Pa. is testing facsimile sending and receiving equipment developed on a production basis by the Cardwell Manufacturing Co.

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- easier to inventory
- stacks neatly, saves space
- saves workmen from injury
- prevents wire from being crushed

Once you start using Alphaduct Drop Wire you will find out that the handy carton packaging has real dollars and cents advantages.

Not only does your wire arrive in perfect condition, but the sturdy carton protects it all the while it's in your warehouse.

The cartons are easier to handle than loose coils. They can be stacked higher without danger of falling and the wire on the bottom will not be crushed or bent. Space is saved, inventory taking is simplified, and the possibility of injuries to workers from tumbling coils is removed.

We try to make Alphaduct the finest, longest lasting drop wire money can buy. Quality materials are used throughout, step-testing during every phase of manufacture assures uniform high standards. Alphaduct drop wire is dated with a color coded thread so you can tell for sure how long it lasts.

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- **25 years young**
- **All in a wink**
- **Birth of a cross-arm**
- **Protection plus**

Published every month to help you get the most out of your materials and supplies dollar

by C. J. Reynolds, Stromberg-Carlson Company

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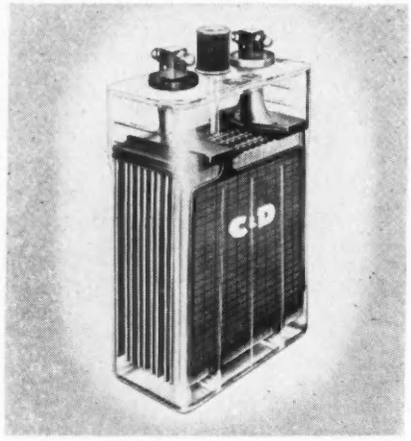
It costs the subscriber **less** than a booth—and you get the revenue!

Your Stromberg-Carlson representative can offer prompt delivery on your order. Ask us for complete details.

These two battery types give you decades of good service

Here's a dependable power supply for you with a life expectancy of **25 years!** It's the C & D PlastiCal telephone battery, and when we say it will last 25 years, we're thinking about **full float service.**



This low-cost PlastiCell battery has life expectancy of 14 years. Its PlastiCal counterpart will last you 25 years.

You get this extra-long life because C & D PlastiCal (lead-calcium grids) batteries have an exclusive suspended and supported plate construction.

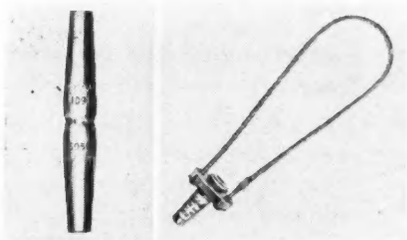
If a 14-year life expectancy will fill your needs, C & D has an economical battery for that, too. It's the PlastiCell battery, using high-tensile lead alloy grids.

In the picture, you see one of these PlastiCell batteries. It's the CE-11 and has a 300 A.H. capacity. In PlastiCal, specify PCE-300.

Both PlastiCal and PlastiCell are available in other capacities. You can order them from your Stromberg-Carlson representative.

Wirelink and Wirevise for a good splice or deadend

Today you can complete a splice in less time than it used to take you to think up cuss words while making old-fashioned splices.



At left, Wirelink gives you a good splice automatically—eliminates fussing and fuming during assembly. At right, Wirevise assembles easily around insulator spools and through thimble eye—for good deadends.

These faster splices are made possible by the Wirelink—an automatic-type splice for .109 steel wire.

Another handy item is Wirevise, the "automatic" deadend. Like the Wirelink, it is especially adapted to .109 extra high strength steel messenger supporting 5- and 6-pair Rural Distribution Cable. Easy to assemble around insulator spools and through thimble eye.

Both are manufactured by Reliable Electric Co. Order from your Stromberg-Carlson representative.

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This is where a good cross-arm gets its start. Douglas Fir blanks, carefully chosen from select stock, are air seasoned at American Cross-Arm, Inc. to give you extra long life, resistance to stress, decay and warpage.

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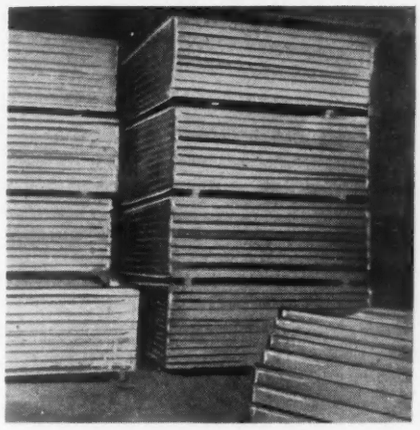
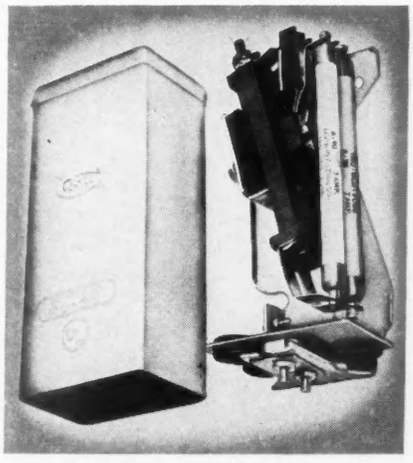
arms from selected stock are seasoned and treated according to best commercial practices.



You'll never have to cross your fingers when you've got American Cross-Arm to depend on.

The Cook RO-9U
sub-station protector

Protection plus—that's Cook Electric Company's type RO-9U sub-station protector.



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The Human Relations Factor

(Continued From Page 56)

In this way he "expresses" himself and is more inclined to fully utilize his abilities. To fail to answer this satisfaction is to thwart the native ingenuity that has been typical of the American workman.

The Satisfaction Of Self-Respect: — Every employe prefers to be treated as an individual with a name, particularly a first name, and thus be recognized for his interests and feelings as contrasted to being treated as just another payroll number or cog in a complex industrial setting.

All people seem to want these satisfactions in varying degrees. Individually our personal order of preference may vary but by understanding each man's individual order of preference we can begin to gain some insight into the causes of his behavior patterns.

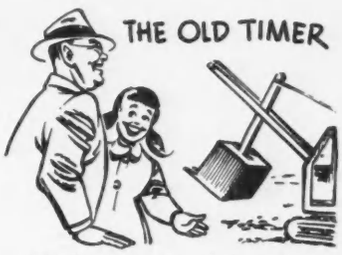
For motivation is simply getting a man to do the things you want him to do by working through his known wants and desires. In a conference lasting about 2½ hours, we can fully explore these various wants and then utilize these principles in analyzing a number of case histories.

Frustration

WE CAN often see and measure strife and unrest in a production group by drops in production, lowered quality, rising costs, etc. However, the key to rectifying such problems is to see the advanced signs in the behavior of one or several workers before it spreads to an entire group.

These advanced signs are known as frustration behavior which is the subject of another of our management training conferences. Once we understand that frustration behavior is the end result of unhappiness or discontent on the job, we can begin to break the behavior pattern down into its component parts. The signs of frustration behavior on the job can generally be indicated through any combination of the following symptoms:

Aggression Behavior: — This is symptomatic of excessive hostility on the part of the worker, fault-finding, picking arguments, spreading rumors or being excessively rough on the equipment. The worker generally does not understand why he specifically acts this way at the moment of occurrence.



"It is not in giving in to others, but building into them, that makes sound homes."

Resignation Behaviors: — Here the worker appears to have given up all hope. He generally lacks spirit and is easily discouraged. Many times the causes of the particular symptom of frustration behavior can be traced far back into his employment history.

Rationalization Behavior: — This symptom is indicated by an excessive use of excuses such as poor tools, a lack of education or training, passing the buck, etc. Although it is natural for any of us to rationalize at times, it becomes symptomatic of frustration behavior when the employe rationalizes more than he works.

Escape Behavior: — Excessive transfers, daydreaming or nervous and imagined illnesses (known as psychosomatic illness) are all indications of this type of frustration behavior.

Regression Behavior: — An employe who is easily led and overly dependent, is immature and even childish is exhibiting symptoms of this type of frustration behavior.

It is important to remember that the employe may indicate any combination of the above symptoms of frustration and yet not realize himself what the problem is that has caused this behavior. In other words, he doesn't know he is frustrated . . . but he knows something is wrong, and as management people, it is up to us to help him understand the causes and then help him adopt a course of remedial action leading to a partial or complete satisfaction of his desired goals. If his goals are unrealistic

A TELEPHONE ENGINEER OPERATING MANUAL

OPERATING MANUAL NO. ONE

Issued

OUTDOOR BOOTHS

Outdoor booths are by no means a new item. However, their extensive usage is a new development and is proving to be a fertile revenue source.

By JOHN S. REED

A NEW FEATURE

Telephone Engineer's *Operating Manual No. 1* is the first of several operating manuals scheduled for publication in future issues of TELEPHONE ENGINEER & MANAGEMENT. It is the intention of the authors and editors to make each manual a complete treatise on each subject scheduled for this new feature department.
We will be pleased to have your comments and suggestions for future subjects.

TELEPHONE TELEPHONE

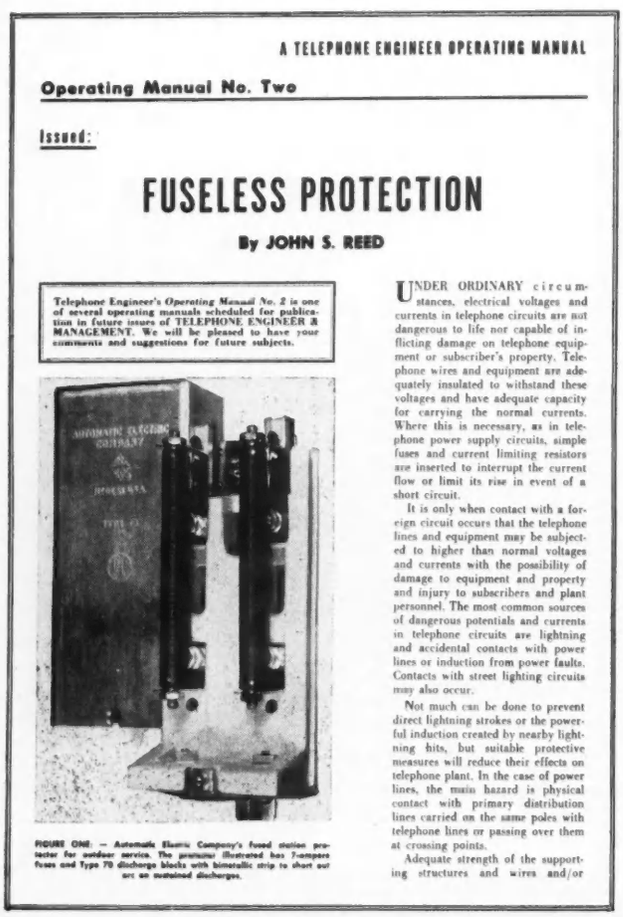
Foundations for Outdoor Telephone Booth

WHEN THE outdoor booth cannot be mounted on a permanent solid surface such as a concrete sidewalk or platform, or a wood floor, it is desirable to place a concrete slab. The slab may be of the dimensions indicated in *Figure* 13, with or without gravel fill. Piers may be formed at opposite corners as shown if a stronger construction is desired.

If a very substantial base is required, the concrete slab may be made 8 inches thick with heavy wire mesh laid 3 inches from the bottom of the slab to reinforce it. The slab is made 4 feet by 5 feet with the booth set back to form an apron at the front.

The concrete slab must be level. The approach to the apron should be paved, graveled, or sodded to minimize bringing dirt and mud into the booth. If possible, the approach should be flush with the apron in front of the booth, but if it is necessary to have a step at the end of the apron, it should not be too high or too low.

The booth is mounted on the slab in the position indicated in *Figure* 14. This is the most desirable position; however there may be cases



A TELEPHONE ENGINEER OPERATING MANUAL

Operating Manual No. Two

Issued:

FUSELESS PROTECTION

By JOHN S. REED

Telephone Engineer's *Operating Manual No. 2* is one of several operating manuals scheduled for publication in future issues of TELEPHONE ENGINEER & MANAGEMENT. We will be pleased to have your comments and suggestions for future subjects.

FIGURE ONE. — Automatic Electric Company's fused station protector for outdoor service. The premises illustrated has 7-ampere fuses and Type 70 discharge blocks with bimetallic strip to short out arc on sustained discharges.

UNDER ORDINARY circumstances, electrical voltages and currents in telephone circuits are not dangerous to life nor capable of inflicting damage on telephone equipment or subscriber's property. Telephone wires and equipment are adequately insulated to withstand these voltages and have adequate capacity for carrying the normal currents. Where this is necessary, as in telephone power supply circuits, simple fuses and current limiting resistors are inserted to interrupt the current flow or limit its rise in event of a short circuit.

It is only when contact with a foreign circuit occurs that the telephone lines and equipment may be subjected to higher than normal voltages and currents with the possibility of damage to equipment and property and injury to subscribers and plant personnel. The most common sources of dangerous potentials and currents in telephone circuits are lightning and accidental contacts with power lines or induction from power faults. Contacts with street lighting circuits may also occur.

Not much can be done to prevent direct lightning strokes or the powerful induction created by nearby lightning hits, but suitable protective measures will reduce their effects on telephone plant. In the case of power lines, the main hazard is physical contact with primary distribution lines carried on the same poles with telephone lines or passing over them at crossing points.

Adequate strength of the supporting structures and wires and/or

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"Industry Oper

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That Was a good question. We checked with several of our readers. What we discovered turned an editorial conference question into a project bearing a top rating.

And Now our "*Industry Operating Manuals*" soon will be appearing *twice a month* — on the 1*st of each month* in FORTNIGHTLY TELEPHONE ENGINEER, and on the 15*th of each month* in TELEPHONE ENGINEER & MANAGEMENT.

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Through long letters and toll bills that helped "up" revenues of a certain telephone company we have obtained the assistance of many industry men and women. These experts are writing material for the new series of "Industry Operating Manuals" — material they hope will help all telephone company personnel learn more about their chosen work.

There Will Be "Operating Manuals" on all phases of telephone work — *Management, Accounting, Commercial, Plant, Traffic, Safety, Personnel, Financing, Rates,* and many other subjects.

Each Manual will be prepared by an industry member who has an intimate knowledge of the subject assigned to him. He will cover his subject thoroughly with concisely written text and adequate illustrations.

Each "Operating Manual" will provide the reader with complete accurate, and modern data that may easily be removed from the magazine and filed in a notebook for study and future reference.

You Are Invited

The New "Industry Operating Manuals" will provide telephone men and women with the best reference and study material ever prepared for telephone industry members.

NEW EDITORIAL FEATURE

"Operating Manuals"

We Believe this so sincerely that we urge every telephone company employe to now arrange to receive *his* or *her own personal copy* of FORTNIGHTLY TELEPHONE ENGINEER on the 1st of each month and TELEPHONE ENGINEER & MANAGEMENT on the 15th of each month.

Just One Feature — "Industry Operating Manuals" — is worth more than the $3.00 cost of a 1-year subscription (24 issues) to both magazines.

And . . . In Addition to the "Industry Operating Manuals," each month you'll receive 176 or more pages of the best telephone reading — Industry News — Washington News — Articles by Ruth E. Richards, Bill Corman, Phil Glanzer, Jay G. Mitchell, New Products, Association News and many other features prepared with one purpose in mind — *to help* telephone men and women better know their industry and their jobs.

If You Are not receiving *your own personal copy* of TELEPHONE ENGINEER & MANAGEMENT magazines on the 1st and on the 15th of each month we invite you to join the thousands of industry members who are finding the publications interesting, helpful and valuable aids to their progress toward management and supervisory positions.

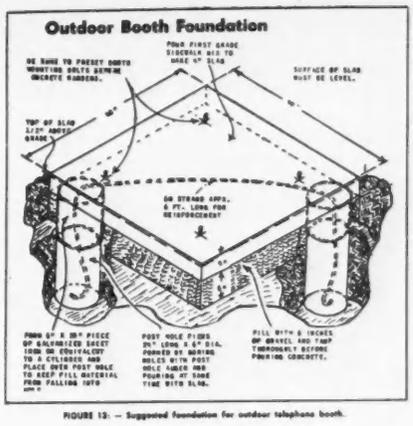

FIGURE 13: — Suggested foundation for outdoor telephone booth.

Outdoor Booths

(*Continued from page 36*)

where the booth will have to be located on one corner of the slab as at sidewalk corners where the booth is set back to clear the walk on two sides. The mounting bolts and their location are for the Sherron type booths illustrated in *Figures 6* to 10.

In some instances, the booth may be located where it might be subject to damage from vehicular traffic as at drive-ins. The booth should be protected by means of bumper posts or guard rails. Only the necessary number of bumper posts should be placed and located so as to prevent a vehicle from striking the booth. *Figure* 15 shows a typical bumper post layout to protect the booth from any direction in an isolated location. Pipe rails may be placed as shown in *Figure* 3.

When the booth is to be fastened to a foundation already in place and no preset bolts have been provided, secure the booth with the appropriate type of fastener listed below:

Concrete or Masonry — four

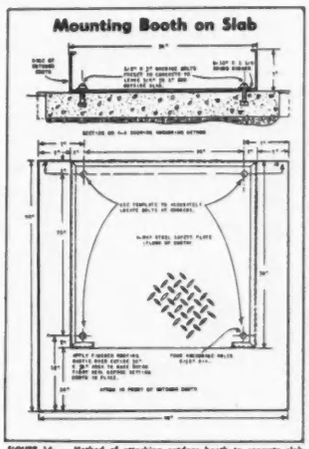

FIGURE 14: — Method of attaching outdoor booth to concrete slab foundation.

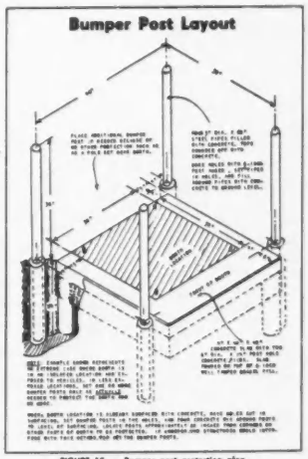

FIGURE 15. — Bumper post protection plan.

Each "Operating Manual" will feature text and illustrations that will provide complete operating data.

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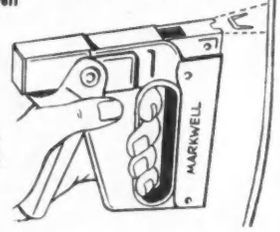

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then we should help him adopt substitute goals that are possible for him to reach.

Effective Leadership

AGAINST this background of understanding motivation and frustration, we can suggest that a management employe should examine his personal leadership. The conference on this subject should start by examining the leader's use of authority. It would appear that his authority is derived from two sources:

(1) The *formal* . . . authority that he receives from management.

(2) The *informal* . . . authority that he receives from the group that reports to him.

Further analysis indicates that there are three prevalent leadership approaches that the manager might take: — (1) The autocratic approach, typified by the use of the word "I"; (2) the free-rein approach, typified by the use of the word "You"; and, (3) the democratic approach, typified by the use of word "We."

Upon analyzing these three approaches, we can begin to see that there is no such thing as a truly democratic or free-rein or autocratic leader, but rather every leader generally uses all three approaches at different times and usually predominates in one.

As there can be no leaders without followers, an analysis of our followership, i.e., the kind of leadership we expect of those above us, indicates that there are times when we actually want each of the three leadership approaches exercised by those to whom we report. In terms of our own leadership techniques, we naturally hope to see the democratic approach utilized most of the time, but again we are quick to point out that there are definite times and circumstances when the autocratic approach and free-rein approach should be used.

Interviewing

ONE OF the marks of a democratic leader is his willingness to listen to and counsel with his people. Our management training program on "Interviewing" should cover the following steps that generally can be used for any interview, regardless of the purpose: —

***Put The Employe At Ease*: —** This will help to reduce some of the

invisible yet traditional barriers of fear, status, etc., that might exist between a supervisor and an employe.

State The Purpose Of The Interview: — It might be a criticism of his work, a commendation, an anniversary appraisal, information the manager is seeking, or a problem the employe has presented.

Keep the Interview Centered on The Employe: — If we are not careful, we will center the interview on ourselves by relating our experiences, opinions, etc. However, it is the employe we wish to reach in order to seek information he has or possibly change or modify his behavior.

Be A Good Listener: — This is the key to good interviewing and is one of the most effective methods in reaching the heart of a personnel problem. Furthermore, it gives us the opportunity to check to see if the employe understands the problem, too.

The interviewer must watch his response in order to encourage the employe to talk during this listening process.

The ways the interviewer may respond are many, such as: — (A) Ask general questions; (B) employ a sympathetic manner; (C) silence, and, (D) the "play-back" (re-stating the employe's last statement in the form of a question).

Check For Meaning: — An experienced interviewer will occasionally send up "trial balloons," that is, questions which state the interpretation of feeling or meaning that he senses behind the employe's statements.

Deciding Upon A Course Of Action: — Many an interviewer finds that the course of action that he has decided upon has also been realized by the employe. Probably one of the greatest bonuses derived from effective interviewing is to have the employe decide for himself on the course of action we would have recommended.

Follow-Up: — This is always necessary to see that the action decided upon is being carried forward.

In conducting these conferences, you should try to hold attendance to groups of 15 men all at the same relative authority level. Conference leaders should employ the "guided discussion technique" which is becoming an increasingly popular method of conference leadership.

In this type of conference, the con-

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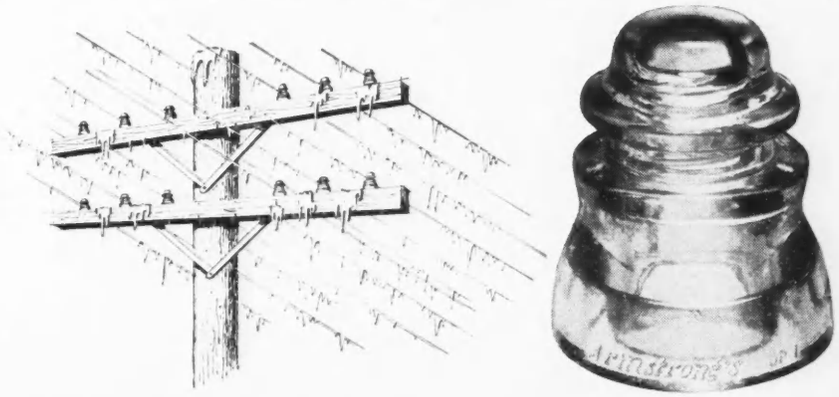

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WHY $12,000-$20,000 JOBS ARE THE EASIEST TO GET TODAY

Here Are Some Surprising Facts About the Serious Shortage of High-Salaried Executives

What You Can Do To Qualify for Top-Level Jobs Open Right Now

SURPRISING at it may seem, the really big jobs today are the hardest to fill—and the easiest to get. Men who can handle top-management jobs can now choose from any number of openings that pay $12,000, $15,000, $20,000 or more.

J. K. LASSER

It was J. K. Lasser, famous business and tax expert, who went after the facts about the scarcity of qualified men for high-salaried jobs. Polling the heads of companies in many fields, he consistently heard from them the same answer. What men in the middle brackets need to make the high-salary grade, these men told Mr. Lasser, is a general, well-rounded knowledge of business procedure.

Gives working methods of top men

This simple answer gave Mr. Lasser an idea for a brand new plan that would literally lead men out of the $5,000-$10,000 plateau and into the top jobs. He asked the foremost men in every field to reveal working methods that have brought success in marketing, public relations, accounting, budgeting, insurance, and "know-how" in every business procedure for top management.

Mr. Lasser consulted only top men, such as business analyst Roy A. Foulke, Vice-president, Dun and Bradstreet; marketing expert Marion Harper, Sr.; nineteen executives nationally known for their successful methods. Then he simplified and "boiled down" this wealth of knowledge into J. K. Lasser's BUSINESS MANAGEMENT HANDBOOK.

What you learn from these executives

Through this book the businessman is able to view each department operation from the top down, with an expert as guide. He learns to talk, think, and plan with the kind of well-rounded authority expected of top management.

In this book you learn streamlined methods of distribution, how to design systems for internal control of business, how to control operations through budgeting, how to avoid business frauds, how to cut paper work in half—to mention only a few helps. Men who truly want to get ahead can ready themselves for the next step up with this HANDBOOK. Order your copy today. The price is just $8.50.

Telephone Engineer Publishing Corp.

7720 Sheridan Road,

CHICAGO 26, ILLINOIS

Ferree is encouraged to participate freely. The conference leader should then utilize the sum of the experiences, opinions and comments of the conferees to reach the conclusions called for in his training outline.

Thus the conferees, through their participation, enjoy a feeling of identity with the principles and conclusions reached.

The benefits you can hope to derive from the human relations training will become apparent only over a sustained period of time. But it is our conviction that the 25 per cent portion of a man's development, namely his participation in these formal company-sponsored training programs, will in turn enrich the 50 per cent portion of the development of others who come in contact with him. In short, that is what you should be after—to have every responsible member of management realize the importance of his contributions to the development of others through daily "contacts."

The sum total of all of industry's training in human relations has barely scratched the surface.

Our understanding of the human aspect of business today must make tremendous strides before it can begin to match our technical and scientific achievements. The coming age of automation with its promise of increased productivity and rising standards of living will be restricted only by the limitation of misunderstanding of purpose between employe and employer. Therefore, we should feel justifiably confident that our efforts in furthering good human relations may well hold the key to our entire industrial future. — ***Richard A. Enion.***

Step - By - Step Selling

(Continued From Page 60)

company to the public. Most important on this point is courtesy at all times and neatness while on the subscriber's premises.

I suggest that if you haven't started on a company-wide sales program that you begin such a step-by-step procedure within your organization. First, sell yourself, then train your people, create an enthusiastic attitude among your employes, and they will produce sales. You will find that most of them really want to sell, and your customers will welcome your interest in their problems.

I am sure if asked General telephone men the question — "*Why should we sell?*," I would get a variety of answers.

If I haven't partially answered that question to your satisfaction, we might consider it from the angle of our *obligations* to the industry of which we are a part. First, I believe we should sell because it is our *business* obligation to do so. This is true because selling provides additional revenue as discussed previously and every business is searching for means to obtain additional revenue and this industry is no exception. It is only good business to sell and since our need for additional revenue is continuing, I believe we have a business obligation to get out and do something about it.

Secondly, I feel a strong *moral* obligation to sell. As a public utility, we are a regulated business. The rates we can charge for our services are regulated because it is not in the public interest for businesses enjoying some exclusive privileges to operate without regulatory supervision. Even so, the principle of regulation is to establish the same financial atmosphere in a regulated industry that would be achieved if it were not regulated and were competitive in nature. The unregulated industry must sell in order to stay in business, so why don't we in the regulated telephone industry have a moral obligation also to get out and sell?

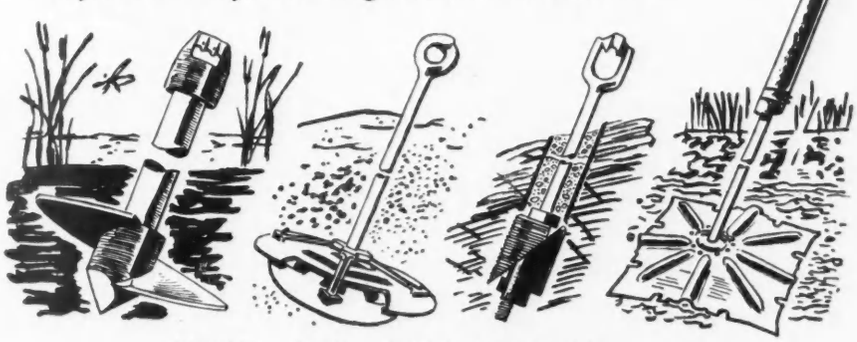
When we are in need of additional revenue our first thought is to go to the regulatory bodies for higher rates. This is necessary and unavoidable, particularly during periods of continuing rising prices, but I believe we have a moral obligation to the public to use every available means at our disposal to improve our situation before appealing to the rate making body. If we are sold on these obligations to sell, then we are in a position to begin selling our people on their obligation to support the sale of our product — the services should then sell themselves. —

Condensed from paper presented at the 1955 Convention of the Rocky Mountain Tel. Assoc.

GraybaR TELEPHONE NEWS

AND POLES ½ A MILE AWAY!

More than 2000 wires terminated here on the roof of the Boston telephone office building in 1883. From this structure, wires often swung free for one-half a mile before reaching the nearest pole – a system highly vulnerable to snow, sleet, and ice. Years of combating conditions like these, however, helped develop the well-known line of Hubbard pole-line hardware – hardware that's truly *experience-engineered.* For rugged, dependable items – from eye bolts to transposition brackets – Graybar reminds you to "hang the load on Hubbard."



SWAMP, SAND, ROCK, HARDPAN— WHAT'S THE PROBLEM IN YOUR AREA?

It really makes little difference – there's a Chance anchor designed to do a quick, sure holding job in any soil classification. And . . . you can get the type best suited to your own local needs from one of 125 strategically located Graybar offices and warehouses across the nation.

WITH JUST ONE ORDER— THE REST OF YOUR NEEDS!

These are just a few of the thousands of telephone items available from Graybar. A pioneer supplier of equipment to the independent telephone industry, Graybar offers prompt service on everything from the bottom of the hole to the top of the pole.

Your local Graybar Representative is anxious to make your order his personal responsibility – be sure to make your next order read "Via Graybar."

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- **Wire saves poles**
- **Power plus for PBX**
- **Money-go-round**
- **Free book tells all**

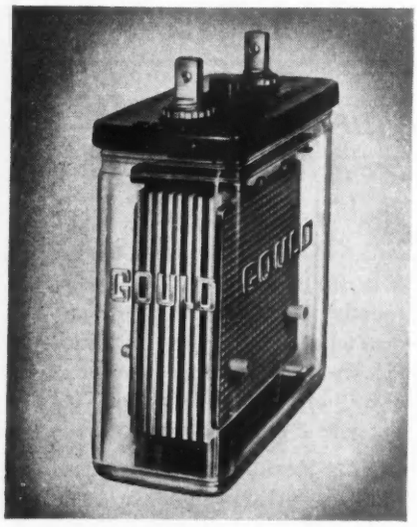
Published every month to help you get the most out of your materials and supplies dollar

by C. J. Reynolds, Stromberg-Carlson Company

The few dollars you spend on *reliable* equipment today will be repaid a hundredfold in lower maintenance costs for years to come. Protect your investment with the double guarantee offered by Stromberg-Carlson. First, leading manufacturers build this equipment, and guarantee it. Second, because we recommend and sell this equipment to the telephone industry, we *also* guarantee its performance!

Battery has lowest yearly cost

There's an easy way to save money on switchgear, signal and alarm systems or emergency light and power applications.



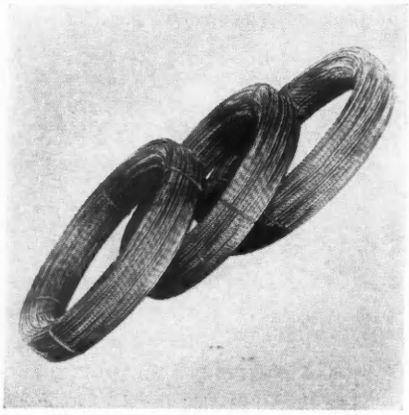
Gould Planté rolls up excellent service records—cuts maintenance to a minimum.

Amazing service records have proved that Gould Planté batteries have the lowest yearly cost of any battery you can use. Pure lead positive plates help make this possible.

For top operating economy, ask your Stromberg-Carlson representative for Gould Planté—the Aristocrat of Stationary Batteries.

Save 10-15 poles per mile

A net saving of 10 to 15 or more pole structures per mile is possible where **Crapo** High-Tensile Telephone Line Wire is used in long-span construction. Fewer pole structures mean substantial savings in time, labor and material, and in maintenance.

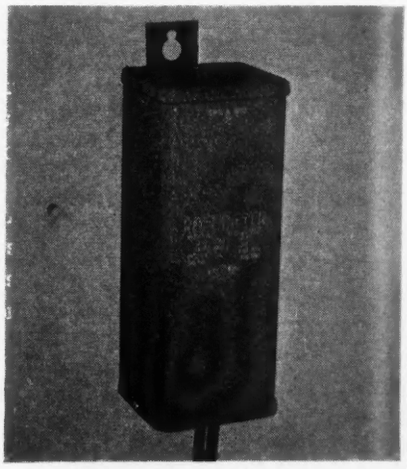


Crapo HTL-135 makes possible spans of 350 feet in heavy, 450 feet in medium, and 500 feet in light loading areas. Its practical economy should be considered for new extensions and where old lines are to be replaced.

Crapo HTL-85 (No. 12 B. W. G.) permits spans of 225 feet in heavy, 325 feet in medium, and 375 feet in light loading districts; provides stronger spans on existing pole structures. Both wires possess superior telephonic transmission qualities.

Keep your PBX customers happy with this dependable power unit

A steady, economical supply of DC power is one of the things you need for an efficient PBX—and a happy PBX customer. Here's how to provide that better service, with big savings.



Money-saving RectiFilteR®. "Just plug it in and forget it!"

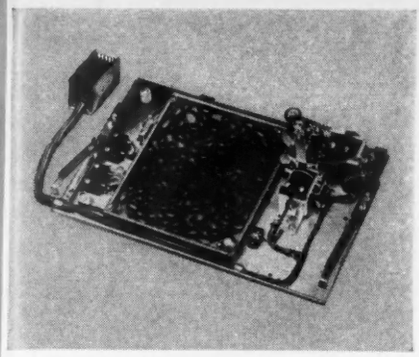
For more than two decades, leading independent telephone companies have found that Raytheon RectiFilteRs are the most economical and efficient way to supply steady DC power to PBX boards directly from an AC source.

With no moving parts, the Raytheon RectiFilteR requires neither adjustment nor maintenance. It will outlast many sets of batteries, release wires carrying charging current from central office to subscribers' PBX boards for revenue producing service, and minimize power cost because of high efficiency in converting from AC to DC.

Dry disc rectifying units and other components are designed for long-life, trouble-free service. The Raytheon RectiFilteR will end your telephone power problems. Just plug it in, close the door—and forget it!

The money goes 'round and 'round

Yes—when the magnetic tape inside this XY® toll ticketing trunk recorder goes around inside the glass, it's making money for the exchange using it!



Completely accurate and completely unattended, the recorder "listens in" on toll calls and picks up all the facts. Later, at a predetermined time and still without human attendance, it feeds its information into a playback which, in turn, activates printing equipment to produce either tickets or punched cards.

Like to know more about Telephone Cable?

Then get your free copy of the Kennecott Telephone Cable handbook. This book contains a concise description of the construction of Kennecott Telephone Cable, and Textile Insulated Cable for terminating and interphone use.

It also includes specifications for Paper Insulated, Dry (core) Lead Encased Telephone Cable, and tables showing lead thicknesses, approximate outside diameter, weights per thousand feet, and standard reel lengths.

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Management Discussions

Collected By
MYRLE SHAFER

"Public Relations Is Not Just 'Frosting On The Cake'"

HOW A company's truck drivers behave, how its buildings look, how its collection letters sound — all have a bearing on a company's public relations.

R. H. Keefer, vice-president — Public Relations, Bell Telephone Co. of Canada outlined these points in a recent address to the Kiwanis Club of Montreal.

"The quality of a firm's public relations results from the total impression," he said. "There is no activity which does not carry its weight of public relations responsibility. The behaviour of a company's truck drivers is significant. So is the tone of its collection letters, so is the appearance of its buildings. And most important of all, of course, is the quality of its products or services — quality, that is, in relation to cost."

. . . "If people like what you sell them and think you are giving them a square deal you are pretty sure to be in the clear public relationswise, Mr. Keefer said. "The fact that you are giving a square deal doesn't guarantee that everyone realizes it.

"Cold hard value for money is by means the whole answer. It must be supplemented by public appreciation of the way the job is being done, the way the company treats its customers and people in general."

Mr. Keefler stressed the importance of a company securing the active support of its employes:

"This is an aspect of public relations to which we in the telephone industry pay very close attention. Much of our training is concerned with what we call Overtones of Service — the way an employe of the business office speaks to a customer who considers there is a mistake in his bill. Unsympathetic treatment on occasions like this can do great damage. Friendly treatment can do great good. And, in each case, the news tends to get around; people talk about how they have been treated — especially, it must be admitted, if they have been badly treated. And this surely holds true for the people who write the letters. Dozens of times a day they represent the company — for good or ill."

Mr. Keefler said the company also believes it helps good public relations if employes are aware that the part they play in their community outside their working hours reflects favourably or otherwise on the company.

"Opinion surveys," he said, "show us that, so far at least, customers who know telephone people personally have a higher opinion of the company than those without such friends."

The goodwill of shareholders is also important, he said. It is won not only by good financial results and fair and reliable dividends, but also by what shareholders see and hear of the company's operations.

Public relations is not just "frosting on the cake," he stated. A "crash program" may well achieve a specific goal, but the real value to any company lies in long-term results.

■ ■ ■

Medical Plans For The Retired Employe

INDUSTRY has been warned to think twice before extending present employe medical insurance plans to cover retired employes by *Howard A. Moreen*, secretary, Group Division, Aetna Life Insurance Co. Ad-

COTTON
Serviceable for all around uses. Standard everywhere.
NYLON
Smooth texture, easy to handle. Preferred for switchboard use.
NEOPRENE
Very popular because easy to keep clean. Moisture and grease proof.

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CORDS

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Take your choice—Neoprene, Nylon or Cotton. They're all high quality cords made in accordance with Runzel high standard of quality. We carry large stocks of cords to meet every need. Our geographical location means Quick Service.

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Management Discussions

(Continued From Page 103)

dressing the American Management Association's Fall Insurance Conference, he suggested a new pattern for retirement benefits planning.

"Management is to be congratulated in assuming a progressive attitude toward providing health protection for retired persons," Mr. Moreen said. "Many employers want to make health protection available for pensioners, indicating their concern over the welfare of employes after retirement as well as during active employment. This is good, since if protection is not provided through voluntary means, other avenues may be sought."

However, the speaker cautioned, the fact that health insurance for retired employes is a good idea does not mean that they should be given the same plans as active employes.

"Recognizing that the cost of medical care for retired employes is several times greater than for active employes, it behooves us to consider carefully whether some of the errors we have made in designing benefits for active employes will be compounded if we allow the pattern to continue for retired employes," he said.

Present-day hospital and surgical plans do not necessarily provide the soundest protection from a pure insurance standpoint, according to the speaker. These plans are "becoming expensive without the inclusion of sound features, such as a deductible to screen out small bills and without some coinsurance to prevent abuse. I certainly am not the first to say that it is possible for voluntary health insurance to price itself out of the market. I will add merely that it will be easier to bring this about in the area of medical benefits for the older person."

Continuation of health benefits after retirement seems to be a trend in industry, Mr. Moreen reported, and the level of benefits appears to be increasing so that "the benefits available to retired employes are edging closer to those available to active employes. Our company is writing fewer plans today with lifetime limits for retired employes such as $1,000 or $2,000. Unions generally demand full coverage with no special limits."

Mr. Moreen suggested "that we avoid some of the errors we have made in designing benefits for active employes — that is — too much first dollar benefit and too little top dollar benefit and redesign health protection for retired employes."

He recommended a plan which would do the following: (1) recognize all types of medical expenses; (2) have a deductible to screen out all first dollar expenses; (3) require coinsurance on all reimbursable expenses; (4) have a lifetime maximum; and perhaps (5) charge part of the benefit payment against the amount of group life insurance being continued.

This plan, he explained, would be a straight major medical expense benefit plan without so-called basic hospital and surgical benefits. It has, he said, inherent soundness, built-in safeguards, and flexible features. Cost could be controlled by varying the deductible, the coinsurance, or both.

In the area of financing group life insurance for retired employes, Mr. Moreen endorsed the paid-up plan, which "while still representing only a small part of the total group life insurance in force is passing out of the experimental stage. The paid-up plan is a flexible means of purchasing pensioner coverage in advance of retirement, without tax complications, and at a reasonable price."

Current trends in retirement life insurance "are mixed," he reported. The General Motors and General

THE DARK CLOUD

The Golden Spike *that joined two oceans*

"The last rail is laid! The last spike driven! The Pacific railroad is completed!" That telegraph message from Promontory Point, Utah, on May 10, 1869 told a waiting America that East and West had been joined by a road of steel. A silver sledge drove a gold-headed spike into a laurel railroad tie to signify the event.

It is significant to note that the first Hemingray Glass Insulators were made in this same era. In fact, for 85 years now, Hemingray has been dependably serving the communication systems of the world.

Experience and research have made Hemingray Insulators the finest obtainable today. They are available for immediate delivery at most jobbers . . . in any quantity . . . in types for all telephone and telegraph pole lines. Send for a free catalog.
Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio.

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Electric agreements provide for gradual reduction to a level depending upon length of service, with a 30 or 33 per cent level for long-service employes. Other automobile companies and the steel industry seem to provide for an abrupt reduction to a uniform amount for each pensioner, frequently about 30 per cent of the pre-retirement insurance.

When amounts of group life insurance for retired employes are not determined by collective bargaining, the amounts are generally more liberal, with 50 per cent a popular proportion. However, for non-collective-bargaining groups there is no definite trend; complete discontinuance at retirement is still common, and in many cases there is full continuance after retirement. Although "one-shot reductions at retirement are customary, gradual reductions over a two- to five-year period are gaining a little in popularity."

Continuation of some group life insurance after retirement, Mr. Moreen pointed out, "is an extra benefit value, although expensive. It is bound to cost on the average a little bit more than $1,000 for each retired person."

■ ■ ■

D. R. Majors Heads Oklahoma Association

■ OKLAHOMA CITY, OKLA.: — The Oklahoma Telephone Association held its annual convention in Oklahoma City at the Huckins Hotel, Oct. 20-21.

The general sessions, presided over by President F. E. Messecar, were shortened to give long recess periods and ample time for everyone to inspect the exhibits, visit the sales representatives and other telephone people.

The fine set of exhibits brought to the convention by the manufacturers and suppliers was probably the principal drawing card that resulted in a registration of about 300.

Speakers included: USITA President Merle M. Hale, Lincoln, Neb.; Sterling H. Bass, comptroller and treasurer, Kellogg Switchboard & Supply Co.; E. H. Danner, president, Texas Telephone Co. and vice president, Oklahoma Telephone Co.; Mrs. Antionette Strauss, traffic training instructor, Southwestern Bell Telephone Co.; and D. L. Davies, manager, technical department, Koppers Company, Inc., Wood Preserving Division.

President Messecar, in his opening

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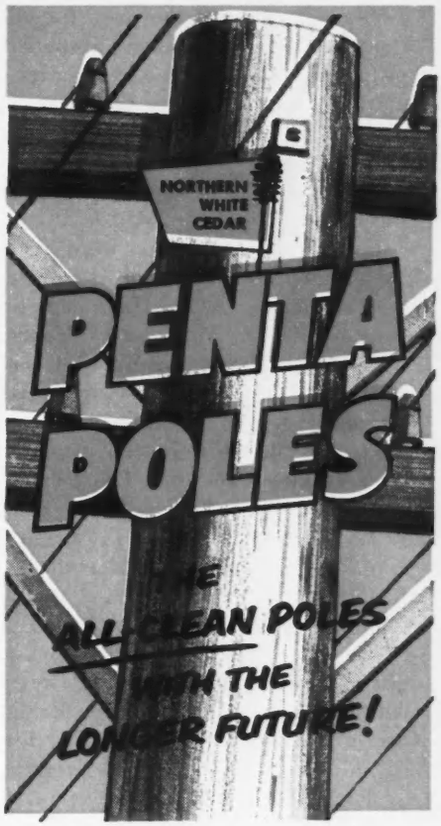

Rely on America's best buy in poles . . . P & H Northern White Cedar PENTA POLES . . . for life-time termite and decay protection . . . for lower maintenance cost . . . for cleaner, safer, easier handling. PENTA POLES are the lineman's choice. Top-to-butt treatment gives added years of dependable pole-line service.

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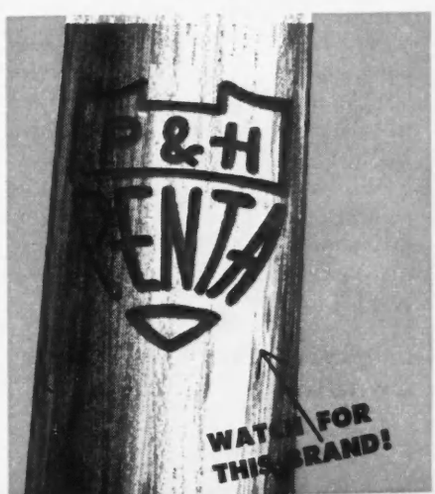

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address emphasized the need for action by all Independent telephone people on the legislative front particularly with respect to the preservation of our 750 station exemption and the reimbursement for costs of moving telephone facilities along new highways.

Four director vacancies were filled by electing Joe Trower of Mannford and re-electing A. L. McFadden of Ringwood, F. E. Messecar of Broken Arrow, and W. E. Gosdin of Oklahoma City for new three-year terms. Harold Peterson of Roosevelt was elected to fill the unexpired term of C. A. Blakeney, resigned. Other members of the board of directors are: J. W. Holt, Stilwell; F. F. Wright, Kingfisher; R. E. Harris, Purcell; D. R. Majors, Carmen; T. E. Sheard, Salina.

The directors elected the following officers for the coming year: President, Mr. Majors; First Vice President, Mr. McFadden; Second Vice President, Mr. Wright; Treasurer, S. C. Rich, Oklahoma City; Secretary, Hugh D. Straughn, Oklahoma City; and Assistant Secretary, Mrs. Lena Greenlee, Moore.

The 1956 Convention has been scheduled for November 7-8 to return to the Huckins Hotel in Oklahoma City.

Urban Succeeds Kessing As Indiana Bell Comptroller

JOSEPH J. URBAN, Indiana Bell Telephone Co. auditor of receipts, has been elected Indiana Bell comptroller to succeed Robert L. Kessing, who has held that post for the past 18 years and retired from active service on Dec. 1.

Mr. Kessing celebrated his 45th anniversary of Bell System service last August, having joined the Central Union Telephone Co., Indiana Bell predecessor, in 1910.

Mr. Urban joined the company as auditor of receipts last January. Prior to that time he was with AT&T and the New England Telephone & Telegraph Co.

Beirne Favors Private Ownership of Tel. Facilities

PRESIDENT Joseph A. Beirne of the Communications Workers of America, in his letter to the union membership in the October issue of the *CWA* News, comments on the union's plan to investigate public versus private

F. E. MESSECAR, president of the Oklahoma Telephone Association, addresses the recent Oklahoma Convention.

ownership of telephone facilities with the statement that he personally believes "that the best kind of telephone service can be given by a privately-owned company and that we can point to the fact that telephone service in this country given by privately-owned companies stands head and shoulders above the telephone service given by government-owned utilities.

"Over the years, we have had to defend this position," Mr. Beirne continues. "Our opinion has been based more on our beliefs than on real facts, supported by a detailed study."

The CWA Executive Board, meeting in Washington during the week of Sept. 19, directed that the President appoint a committee to study the question of public vs. private ownership of telephone facilities in line with a resolution referred to the board by the ninth annual convention in St. Louis last June.

"The purpose of this committee is to make a study of the entire matter in order to reveal all the facts associated with government vs. private ownership," Mr. Beirne explains in his CWA News letter. "I have not appointed a committee as yet, but when I do, its job will be to make a comprehensive study, to really search out and find all the real facts associated with this matter."

General Tel. of S. W. Reports on New Rates

GENERAL TELEPHONE Co. of the Southwest was granted the following rate increases in Texas during the month of October, 1955:

Exchange	Effective	Old Rate	New Rate
Turkey, Tex.	Nov. 6, 1955		
Dial	Bus.—1-Party	$7.00	$8.00
263 Stations	2-Party	5.50	6.50
	Res.—1-Party	4.00	4.50
	2-Party	3.25	3.75
	4-Party	2.75	3.25
Quitaque, Tex.	Nov. 6, 1955		
Dial	Bus.—1-Party	7.00	8.00
227 Stations	2-Party	5.50	6.50
	Res.—1-Party	4.00	4.50
	2-Party	3.25	3.75
	4-Party	2.75	3.25
Bryson, Tex.	Nov. 26, 1955		
Magneto	Bus.—1-Party	4.50	6.00
155 Stations	2-Party	3.50	5.00
	Res.—1-Party	3.00	4.00
	2-Party	2.50	3.50
Kyle, Tex.	Nov. 1, 1955		
Magneto	Bus.—1-Party	4.50	6.75
178 Stations	2-Party	3.75	5.75
	Res.—1-Party	2.75	3.25
	2-Party	2.25	2.75

Direct Distance Dialing Scheduled For Windsor, Ont.

WINDSOR, Ontario, next year will become the first city in Canada with the new direct distance dialing system.

Area Manager A. T. Curtis, of the Bell Telephone Co. of Canada, said telephone subscribers in the city and suburban LaSalle and Tecumseh areas next summer will be able to dial more than 1,000,000 Michigan numbers directly.

"It will be another major step in the telephone industry's program to make North America a single vast telephone exchange," he said.

"This Was a Great One"

Wesley H. Loomis III, (left), president of the Loomis Advertising Co., and Thomas Hart Benton review the famous American artist's drawings, now being featured in Loomis advertising of complete telephone directory service. Benton has finished the last of a commissioned series of four drawings for Loomis. Photograph was taken in the artist's Kansas City home.

DUBIOUS FINDS IT HARD to believe two plus two equal four. Try getting a "yes" frame of mind by first posing questions on which there is bound to be agreement.

ALOOF. THE COMPANY did this customer a dirty trick once and there's no forgetting. First task is to persuade this one that people aren't no darn good.

Handling The Dissatisfied Customer

By David Markstein

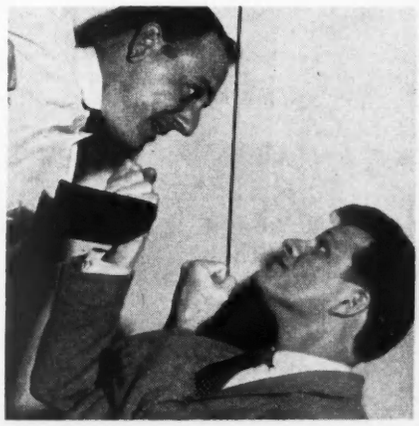
MOST TELEPHONE company people who meet the public know that difficult customers tend to fall into types. Knowing these and the stimuli to which each responds can help in developing answers and techniques for sounder customer relations.

Pictured in the accompanying photo-sequence are a number of difficult customer "types," with suggestions that experienced customer relations experts have worked out for handling them.—***Dave Markstein.***

THE POCKETBOOK is open and you can sell anything. But go slow! This one will make a bad future enemy if you give way to temptation.

IT'S ALL A matter of price to this fellow — not what the phone will do, but what it costs.

THE INTELLECTUAL TYPE. Don't waste time with emotional appeals here; get to well-reasoned "whys".



BELLIGERENT BILL. Anytime your ideas run counter to his, you're not in for an argument — but a fight. He's a cinch to handle if you imply from the start that he's right— in wanting what you wish him to want.

TIME IS important to this one. If you have a time limit, hit hard with the biggest benefits — no details. Chances are the customer will quickly forget time to hear how those benefits can be achieved.

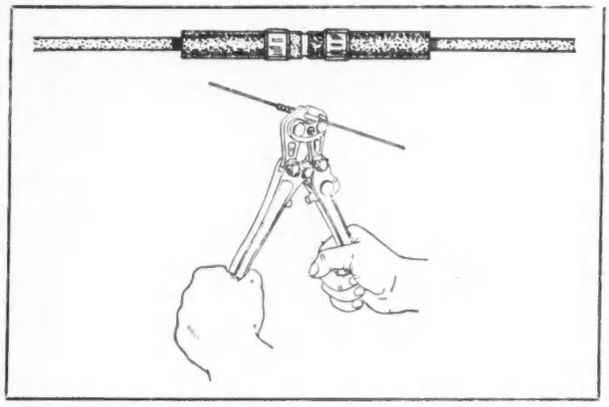
THE BUSY customer says, "Sure, go on Mister, I'm listening." Try something startling to turn interest on what you have to say — like: "Look, your clothes are on fire." Try describing a new development that will enable the prospect to maintain better contact with his clients.

HANDBOOK DATA SHEETS

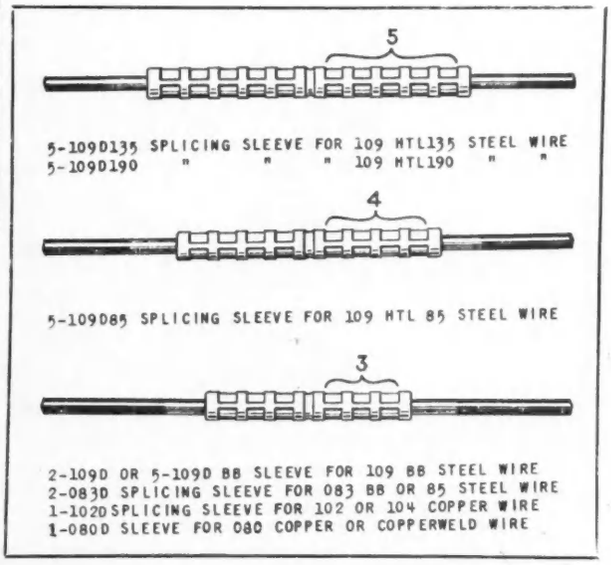
Prepared By
JOHN S. REED

Compression Type Sleeves (Continued)

First make the two inside squeezes, closing the tool after each squeeze until the handle bumpers meet.



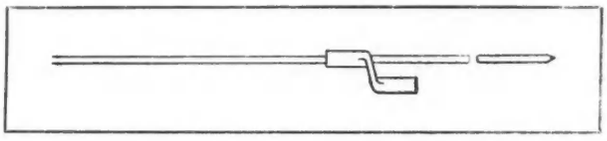
Then continue making squeezes until entire sleeve is compressed. There should be about 1/16" space between squeezes. When the splice is completed, it will look as pictured below.


5
5-109D135 SPLICING SLEEVE FOR 109 HTL135 STEEL WIRE
5-109D190 " " " 109 HTL190 " "
4
5-109D85 SPLICING SLEEVE FOR 109 HTL 85 STEEL WIRE
3
2-109D OR 5-109D BB SLEEVE FOR 109 BB STEEL WIRE
2-083D SPLICING SLEEVE FOR 083 BB OR 85 STEEL WIRE
1-102D SPLICING SLEEVE FOR 102 OR 104 COPPER WIRE
1-080D SLEEVE FOR 080 COPPER OR COPPERWELD WIRE

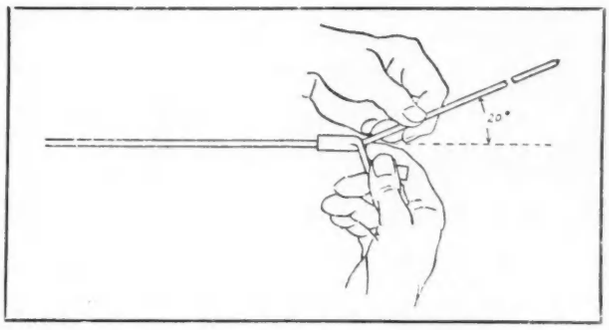
When splicing wires between pulling sections (wires under tension), connect each corresponding end of a line wire with slack blocks. After the wires have been properly tensioned, cut off each end of corresponding wires so that the ends just meet. Then pull up the blocks to bring the ends slightly past each other. Place compression sleeve on the wire ends, crimp in position, and remove the blocks. This procedure will eliminate the possibility of the wire ends slipping inside the sleeve and producing a weak splice.

Dead Ending Line Wire on Insulator (Nicopress Dead End Sleeve)

To dead end line wire on a spool insulator (dead-end bracket), pass a sufficient length of the line wire through either end of a dead-end sleeve to form a loop. If jumper is required, push through as much wire as needed.



Grasp protruding end of the wire with one hand and empty part of dead-end sleeve with the other hand, and bend wire at a small angle.



Rates Increase OK'd for New Woodstock, N. Y.

THE NEW YORK Public Service Commission has accepted a tariff amendment filed by Cumings Telephone Co. to increase rates to its customers by an estimated $1,900 annually effective December 1. The company serves about 475 telephone stations in New Woodstock, N. Y. and surrounding portions of Madison and Onondaga County.

In filing its new tariff, the company said its operating expenses have increased materially and that even with increased rates, its net income for the next year will be less than that for 1954 and said the additional revenues were needed to enable it to continue adequate service to its subscribers.

A comparison of present and new rates is as follows: Residential service, individual line, increased from $3.50 to $4.25; two-party, from $3.00 to $3.50; 10-party rural, from $2.75 to $3.00. Business service, individual line, increased from $5.25 to $6.25; two-party, from $4.50 to $5.25; 10-party rural, from $3.75 to $4.25.

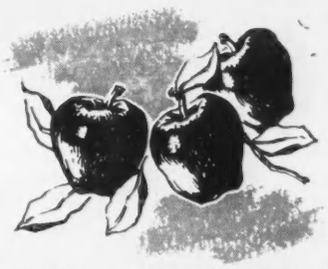
Rate Boost Approved for Addison, N. Y.

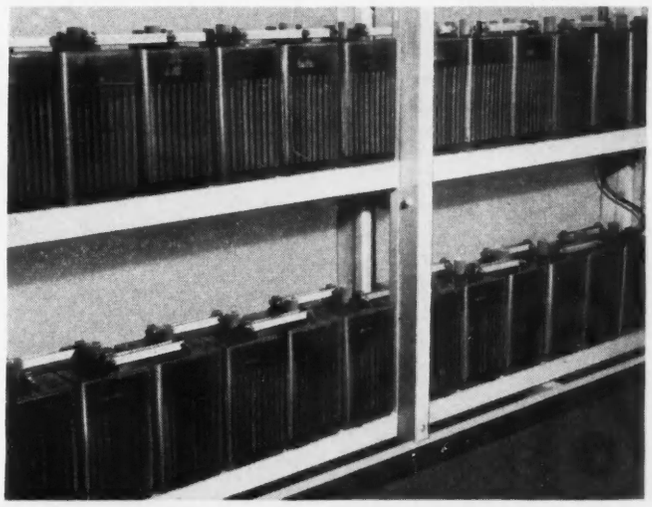
THE NEW YORK Service Commission has accepted a tariff amendment filed by Addison (N. Y.) Home Telephone Co. to increase rates by an estimated $4,400 annually effective December 1.

In filing its new rates, the company said it has been engaged in an expensive plant rehabilitation program since 1951 and that additional revenues are required if it is to continue adequate service.

A comparison of present and new rates is as follows: Residential service, individual line, increased from $3.50 to $3.75; four-party, from $2.50 to $3.00; multi-party, from $2.00 to $2.50; multi-party rural, from $2.75 to $3.00; multi-party foreign exchange (Borden Area), from $3.00 to $3.25. In addition, a new 10-party rural rate of $3.25 is established for those wishing such service. Business service, individual line, increased from $5.25 to $6.50; two-party, from $4.25 to $5.75; four-party, from $3.50 to $5.50; multi-party rural, from $3.50 to $5.25; extension station, from $1.25 to $1.35. A new 10-party rural business service is also being offered at $5.50 monthly.

At Oregon-Washington Telephone Co.





The Oregon-Washington Telephone Co. is proud of their newest installation of C&D Batteries at the Hood River, Oregon plant. The 24 PlastiCal cells, Type PCE-540, have a 540 A. H. capacity.

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For many years to come, the C&D PlastiCal batteries at Hood River, Oregon, will provide continuous, dependable service. Here, in the heart of the world's most famous apple country, the Oregon-Washington Telephone Co. has found that C&D has the answer to telephone battery needs.

When you order your next telephone battery, specify C&D. For with C&D, you get:

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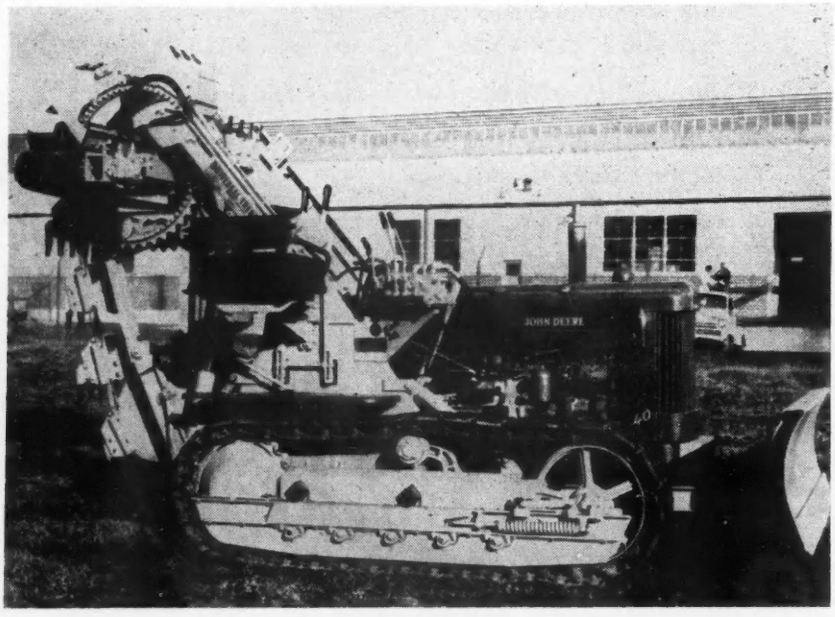
NEW PRODUCTS' SHOWCASE

Trencher

HELLER MANUFACTURING CORP., 1849 E. Slauson Ave., Dept. TE&M, Los Angeles 58, Calif., has announced an addition to its trencher line. The Universal Trencher is now approved allied equipment for mounting on the John Deer 40 Crawler Tractor.

The new trencher has a digging depth of four feet and trenches 14″, 16″ and 18″ widths. Especially designed as a utility trencher, the Universal holds line and grade without effort, is hydraulically controlled and trenches easily in small space. Other features are cross trenching, square trenches, and strip pipe lines. The Universal Trencher switches dirt instantly to either side and employs a heavy duty backfiller blade to replace dirt.

The Universal Trencher is assembled on precision aircraft jigs to insure fit and interchangeability of parts. A descriptive folder is available outlining complete specifications of the Universal Trencher.—For complete data, ***Check New Product* 881.**

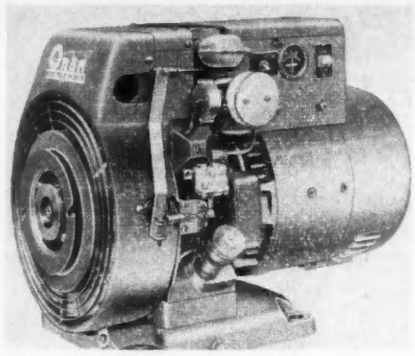


New Universal Trencher.

2,000-Watt A.C. Electric Plant

A NEW "heavy-duty" electric generating plant, Model 2LK, has been announced by D. W. Onan & Sons Inc., Minneapolis, manufacturers of generating equipment.

According to the manufacturer the Model 2LK produces 2,000 watts, 60-cycle, A.C. at 1800 RPM (or 1500 watts in 50-cycle) in all standard frequencies and phases. An extremely compact unit, weighing 235 pounds, the LK unit was built specifically for rugged, heavy-duty service on scores of jobs requiring economical, long-life performance in an independent source of electric power. It is a tough little unit that can take rough handling on mobile and portable jobs, and stand up under long hours of continuous service.



Electric Generating Plant.

Model LK is powered by an Onan single-cylinder, air-cooled, 4-cycle gasoline engine with Stellite-faced rotating exhaust valve, large long-wearing bearings and efficient trouble-free air-cooling. A conservatively rated, blower-cooled Onan generator is direct-connected to the engine for permanent alignment.

Completely self-contained Manual Starting Models are equipped with patented recoil rope starter, mounted fuel tank, muffler, air-cleaner, terminal box and vibration dampeners. Electrically cranked Remote Starting Models come equipped with mounted control box, exhaust tubing and muffler, air-cleaner, separate fuel tank and battery cables. Radio shielding on high tension wire and spark plug is standard equipment for all models.

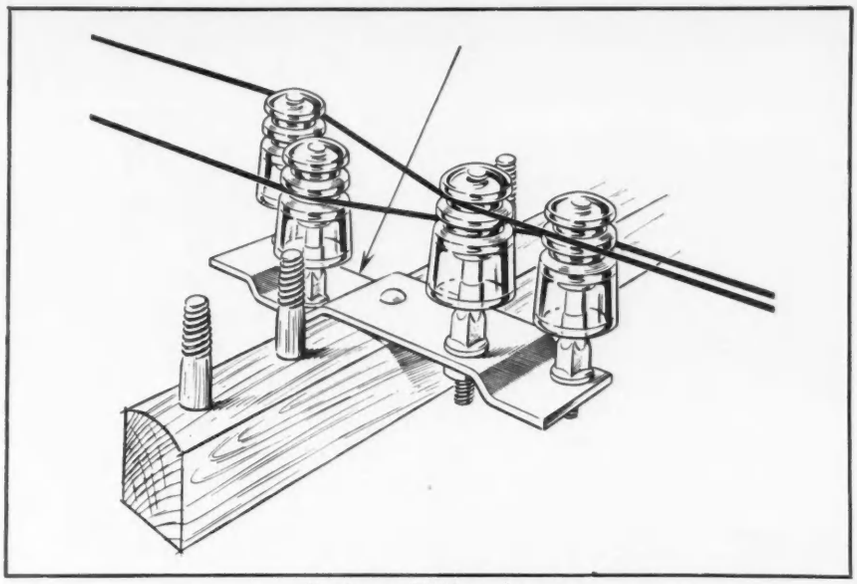
A complete line of optional accessories include: Carrying frames, 2-wheel dollies, automatic controls, emergency line transfer controls, receptacle plate kit and gas-gasoline carburetors.

For complete information on the new Onan Model LK, ***Check New Product* 882.**

New Insulator

INTRODUCTION of a new communications insulator, Hemingray TS-23, designed by the Bell System Laboratories, has been announced by the manufacturer, Kimble Glass Co., subsidiary of Owens-Illinois Glass Co. It replaces the old style GSC-22 and is specifically designed for carrier circuit use on all "point" type transposition hardware and at intervening non-transposition poles.

The new TS-23 has two grooves, increasing its versatility for transpositions. The addition of the second groove makes it practical for use on new transpositions as indicated in the

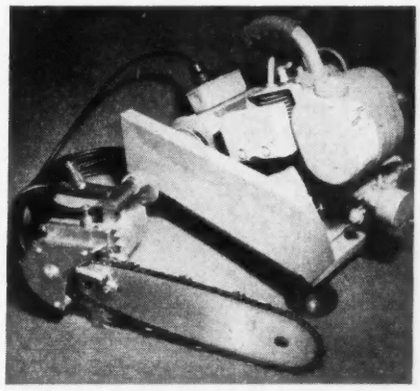


Hemingray TS-23 Insulator.

illustration. The entire assembly shown here takes only the cross-arm width of one conventional pin, and transposition may be installed on existing cross-arms without crowding. Center to center spacing of wires is 4 inches. Minimum clearance between wires at the crossover is 1¼ inches. —*Check New Product* **883.**

Lightweight Chainsaw

RECENTLY introduced by Trailite Corp., Three Lakes, Wis., manufacturers of light plants, pumps, and electric tools, this ruggedly constructed (ball-bearing throughout) ¾ hp. chainsaw is tailor-made for many construction and repair projects.



The saw operates from a Trailite generator set, or any other source of 110 volt, 60 cycle AC current. For complete data, *Check New Product* **884.**

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ADV. 21..... ADV 22.....

THE BUYERS' GUIDE

ADVERTISING, Directories — *General Telephone Directory Co., 1800 Busse Highway, Des Plaines, Ill.*—[ADV. 1]

BELTS — CLIMBERS — COMPLETE LINEMEN'S EQUIPMENT, *W. M. Bashlin Co., Bashlin Bldg., Grove City 1, Pa.*—[ADV. 2]

BELTS — CLIMBERS — PLIERS — SAFETY STRAPS — CONSTRUCTION TOOLS. *Klein & Sons, Mathias, 7200 McCormick Rd., Chicago 45, Ill.*—[ADV. 3]

BOOTHS—Acoustic Telephone — *Sherron Metallic Corp., 1202 Flushing Ave., Brooklyn 6, N. Y.*—[ADV. 4]

BRUSH & WEED KILLERS — *Thompson manufactures many types of brush and weed killers. Write for helpful information on specific problems. Thompson Chemicals Corp., St. Louis 3, Mo.*—[ADV. 5]

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CORDS, Switchboard (with or without plugs), Instrument (retractable and regular) and Operators — *Commercial Cord & Supply Co., Inc., 26 Main St., Clifton Springs, N. Y.*—[ADV. 7]

CORDS, Switchboard & Telephone — *Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago 41, Ill.*—[ADV. 8]

FURNACES — For quickly and economically melting lead and paraffin — *Mutual Liquid Gas Equipment Co., Inc., 3600 W. Imperial Highway, Los Angeles, Calif*—[ADV. 9]

INSULATORS, Porcelain — *Porcelain Products Inc., Box 300, Findlay, Ohio.*—[ADV. 10]

LIGHTWEIGHT PULLERS — *Coffing Hoist Company, 800 Walters St., Danville 5, Ill.* — [ADV. 11]

PIPE PUSHERS — *Giant Manufacturing Co., South 6th St., at 12th Ave., Council Bluffs, Iowa.*—[ADV. 12)]

POLE HOLE DIGGERS — *For derrick mounted trucks. Tele-E-Lect Products, Inc., 9613 Minnetonka Blvd., Minneapolis 16, Minn.* —[ADV. 13]

POLES, Southern Yellow Pine — *Colfax Lumber & Creosoting Co., Inc., P. O. Box 23. Pineville, La.*—[ADV. 14]

POLES, Southern Yellow Pine — *Taylor Colquitt Company, 290 E. Main St., Spartanburgh, S. C.*—[ADV. 15]

POLES, Southern Yellow Pine — *Texas Creosoting Co., Orange, Texas.*—[ADV. 16]

PROTECTIVE EQUIPMENT — *Reliable Electric Company, 3145 Carroll Avenue, Chicago 12, Ill.*—[ADV. 17]

REBUILT TELEPHONE & SWITCHBOARDS — *Telephone Repair & Supply Company, 1760 Lunt Avenue, Chicago 26, Ill.*—[ADV. 18]

TRUCK BODIES — *Highway Trailer Co., Edgerton, Wisc.*—[ADV. 19]

WIRE, Insulated — DATED DROP WIRE — Neoprene or Weatherproof — *Alphaduct Wire & Cable Co., Milltown, N. J.*—[ADV. 20]

WIRE, Insulated Drop and Bronze or Copperweld — *Acorn Insulated Wire Co., Inc., 36 Freeman St., Pawtucket, R. I.*—[ADV. 21]

WIRE, Telephone, for all inside and outside uses — *Whitney Blake Co., New Haven, Conn.*—[ADV. 22]

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Lenkurt Electric Expands Technical Training Program

LENKURT ELECTRIC CO. has expanded its technical training program for customers to full-time operation and is now offering one-week courses on the installation and maintenance of 45A carrier and 72B radio.

Like similar instruction offered intermittently during the past three-and-a-half years, the courses are being conducted at Lenkurt's headquarters plant in San Carlos, Calif. by engineers experienced in field applications.

The present series of courses was started in mid-October and will continue, with interruption for the holiday season, through next spring. A further expansion of the training program is expected next year when it is planned to add courses covering new equipment and other subjects for which there is a demand.

David Hadley, who has worked in the Applications Engineering and Sales Divisions at Lenkurt, has been assigned as instructor on a full-time basis. Hadley is a graduate of McGill University in Montreal with a B.E. degree in Communications. Before joining Lenkurt two-and-a-half years ago, he worked in both the Equipment and Plant Extension Engineering Sections of the Bell Telephone Co. of Canada.

The courses are intended to prepare operating companies' plant personnel to install, line up and maintain Lenkurt equipment. They also should qualify participants to give similar training to other people in their own organizations.

The classes usually are limited to 10 persons. Facilities available in the classroom include working 45A and 72B systems, sub-assemblies, test equipment and drawings. Lenkurt publications also are provided to familiarize participants with sources of technical information.

No tuition or registration fee is charged for the courses. Applications for enrollment are handled by the Lenkurt distributor, Automatic Electric Sales Corp., Chicago.

Union Carbide Announces Department Consolidations

CONSOLIDATION OF public relations activities of Union Carbide & Carbon Corp. in a new public relations department, and formation of advertising departments for four of its divi-

sion companies, has been announced. These new groups will take over the advertising work formerly handled by the General Publicity Department.

The Public Relations Department will be responsible for the corporation's public relations and stockholder relations programs. H. F. Bulkley was named director of Public Relations; T. C. Fetherston, assistant to the director; George Sykes, manager of the Public Relations Department; and W. B. Burklund, assistant manager.

Appointed to head up the advertising departments of the division companies are: Linde Air Products Co., R. W. Boggs; Carbide & Carbon Chemicals Co., G. B. Moynahan; Electro Metallurgical Co., L. F. Granger; and Haynes Stellite Co., J. P. Reap.

Your Next 12 Hours

Just for today I will try to live through this day only, and not tackle my whole life problem at once. I can do something for 12 hours that would appal me if I felt I had to keep it up for a lifetime.

Just for today I will try to strengthen my mind. I will study. I will learn something useful. I will not be a mental loafer. I will read something that requires effort, thought and concentration.

Just for today I will adjust myself to what is, and not try to adjust everything to my own desires. I will take my "luck" as it comes, and fit myself to it.

Just for today I will exercise my soul in three ways: I will do somebody a good turn, and not get found out. I will do at least two things I don't want to do — just for exercise. I will not show anyone that my feelings are hurt; they may be hurt, but today I will not show it.

Just for today I will be agreeable. I will look as well as I can, dress becomingly, talk low, act courteously, criticize not one bit, not find fault with anything and not try to improve or regulate anybody except myself.

—AUTHOR UNKNOWN.

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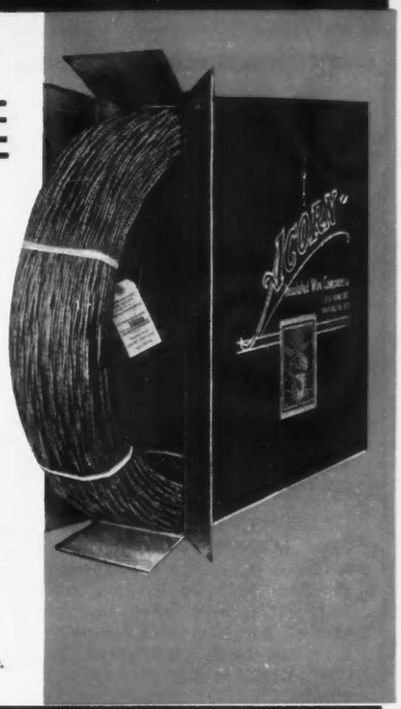

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W. E. — El — Hand Units Only, 3 Cond. Cord. @ $3.00 ea.
Conn. Elect. Hand Units, 4 Cond. Cords, Capsule Receiver, & Transmitters. @ $4.00 ea.
SUbcycle, Model M. 7.5-60 @ $25.00 ea.

Prices are F.O.B. Chicago

INDEPENDENT TELEPHONE REPAIR CO.
2137 West 21st St. Chicago 8, Ill.

SPECIFY TELERING for

Dependable and Economical Telephone Ringing Power Equipment.
Engineered for complete satisfaction.

Manufactured by
TELKOR, INC. Elyria, Ohio

Rebuilt, Refinished
Loud ringing bells. 1000 or 2500 Ohm @ $8.00 each. With Condensers @ $9.00 Each.
F.O.B. Chicago, Ill.
INDEPENDENT TELEPHONE REPAIR CO.
2137 W. 21st St. Chicago 8, Illinois

FOR SALE—Two telephone exchanges, One S. B. — One Dial. Both in good condition. P. O. Box 36, Cotter, Ark.

WANTED TO BUY — W. E. type 60AP and 60 BP Selectors, Advise, condition, quantity, price and location. Box No. 8994, Telephone Engineer Publishing Corp., 7720 N. Sheridan Road, Chicago 26, Illinois.

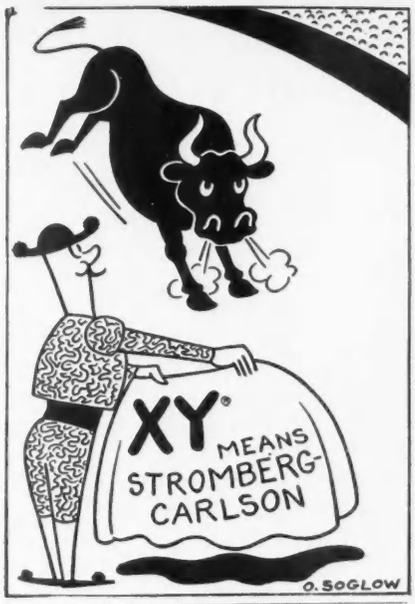
CABLE-SPLICERS' WIPING CLOTHS

WIPING THE VERTICAL JOINT

Showing the up-right cloth in action.

Formed-flexible finishing cloths (Patented); Flat finishing cloths; Catch cloths; Crotch cloths and Up-right joint catch cloths. Made of world-prize HERRINGBONE TICKING or imported English MOLESKIN. If your jobber cannot supply you write us for literature and prices.

GEO. E. WILLIAMS CO.
3035 ALDRICH AVENUE, MINNEAPOLIS, MINN.



WANTED TO BUY

WANTED TO BUY — Stromberg Carlson #15 — Toll positions equipped with universal or toll universal cord circuits, four party harmonic ringing, 1900 line multiple, 24 volt operation.

Stromberg-Carlson #3—Toll positions equipped with universal or toll universal cord circuits, four party harmonic ringing, 1600 line multiple, 24 volt operation.

Stromberg-Carlson #3 Universal positions equipped with universal cord circuits, four party harmonic manual ringing, 600 line multiple, 24 volt operation.

Stromberg-Carlson #3—Universal positions equipped with universal superservice cord circuits, four party harmonic machine ringing, 600 line multiple, 44 volt operation.

Indicate number of positions and date of availability. Address reply to — Chief Engineer, General Tel. Co. of Michigan, 806 Terrace St., Muskegon, Mich.

HELP WANTED

HELP WANTED—General Superintendent for growing telephone system in upper Midwest. Must have broad experience and ability to supervise all operations. Reply to Pioneer Telephone Company, Waconia, Minnesota.

UNITED UTILITIES, INCORPORATED

43rd Consecutive Dividend

The Board of Directors declared a quarterly dividend of 30 cents per share on the outstanding common capital stock of the company, payable on or before December 31, 1955, to stockholders of record at the close of business December 13, 1955.

Abilene, Kansas
December 1, 1955

ALDEN L. HART,
President

International A.E. Moves Logan To Far East

INTERNATIONAL Automatic Electric Corp. has announced the assignment of Thomas A. Logan to its sales operations in the Far East, including south and southeast Asia and Indonesia, with headquarters in Manila. He will join J. K. Barrington, who

T. A. LOGAN

J. K. BARRINGTON

has represented the organization in that area since 1945. After an adequate transition period, it is expected that Mr. Logan will take over the Far Eastern activities of the organization when Mr. Barrington retires.

Mr. Logan joined Automatic Electric upon his graduation from Yale University in 1926, where he received his degree in Electrical Engineering.

After completing the company's training course, he served in various installation and operation assignments, and then was transferred to Equipment Engineering and later to Engineering Inspection. In 1934, he joined the sales organization as a staff engineer.

In 1947, Mr. Logan was elected vice president of Automatic Electric Sales Corp. and assigned to the New York City headquarters, where he served until recently.

He is a native of St. Joseph, Mo. During World War II, he served with the Air Force in North Africa and Italy, and at present holds the rank of Colonel in the Air National Guard.

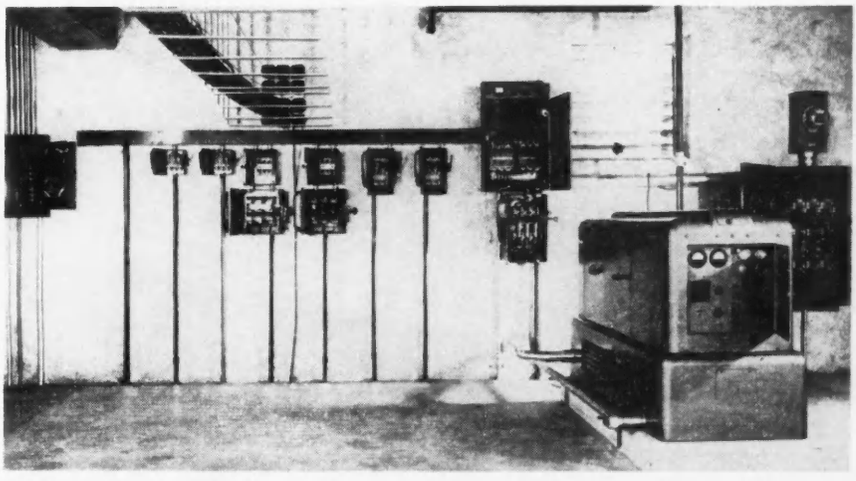
Mr. Barrington has been with the Automatic Electric group for more than 45 years. Beginning his career as in installer in 1910, his first foreign assignment was in Havana, where, in 1924, he supervised installation of the first Director equipment in that city. In 1925 he was placed in charge of engineering for several installations in Panama, and then in 1928 was sent to Japan.

After some seven years service in the Orient, Mr. Barrington returned to the home office in Chicago where he served as staff engineer and district manager until 1945 when he was again assigned to Far Eastern operations.

New Booklet on Derricks

A FOUR-PAGE descriptive bulletin on Series 4700 Power Derricks has been published by J. H. Holan Corp. The new bulletin has performance charts, dimensional drawings and operating features for rear-mounted and front-mounted derricks to lift loads up to 6500 pounds.

New Electric Plant at Russell, Kans.



The United Telephone Co. recently installed a 25,000-Watt A.C. Onan Standby Electric Plant at its Russell, Kans., exchange.

Set up in the basement of the exchange, the Model 25HN-4R (above) is equipped with a wall-mounted Line Transfer Control that makes plant operation during emergencies completely automatic. The fully housed generating unit, powered by a water-cooled engine running on natural gas, produces 120/208-volt 60-cycle 3-phase current.

C. M. Robbins Announces New Engineering Service

CHESTER M. ROBBINS SR., Colorado Springs, Colo., has announced the organization of the Telelectro Engineering Service, to provide consulting engineering service and representation, to Independent telephone companies, in matters pertaining to the Sage System, and other military communications matters.

Mr. Robbins, a veteran of 27 years in the telephone field, will head the organization as chief engineer. An office is being established, to act as a clearing house, and engineering liaison. A news bulletin will be published monthly, giving up to date information on all military communications, as well as normal telephone matters. A correspondence section is being established, to assist those clients, who have occasional need for answers to perplexing problems. Complete engineering service is available for the smallest as well as larger engineering projects.

Mr. Robbins is an active member of the Armed Forces Communications and Electronics Association, the American Association of Engineers, Institute of Radio Engineers, and is a member of the Independent Telephone Pioneer Association.

Gar Wood Names Zahniser, Ad. Mgr.

RALPH W. ZAHNISER has been appointed as manager of sales promotion and advertising of Gar Wood Industries, Inc., Wayne, Mich. He has been with Gar Wood since 1951 and has served in several capacities in sales promotion and advertising.

Before joining Gar Wood, Zahniser was associated with Ford Motor Co., Detroit, and was advertising manager for the State Equipment Co., Harrisburg, Pa.

Taylor and Fitzmaurice Named to New Exide Posts

EVANS TAYLOR, former Philadelphia branch sales engineer, has been named manager-sales engineering of

EVANS TAYLOR

E. J. FITZMAURICE

Exide Industrial Division of The Electric Storage Battery Co. He succeeds E. J. Fitzmaurice, Jr., who has been appointed Boston branch sales manager.

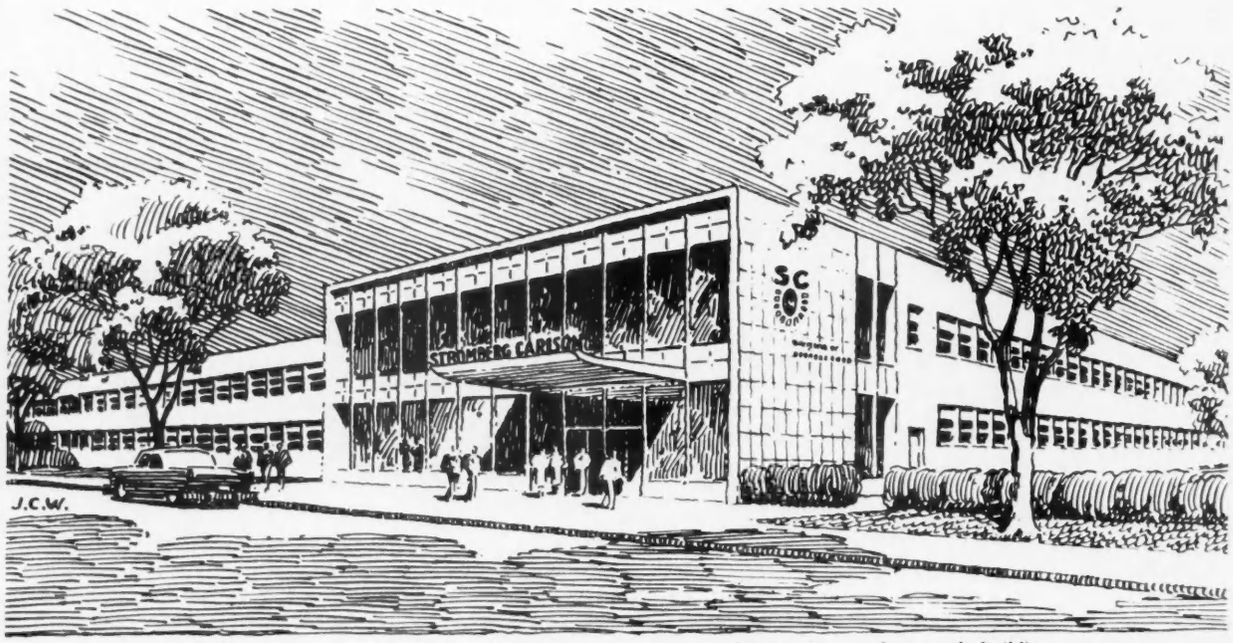
First employed by the company in 1936 as a laboratory assistant, Taylor later spent five years as a submarine battery division field representative. During 1942 and 1943 he was on loan for a U. S. Army Air Force overseas project involving maintenance, repair and overhaul facilities for aircraft batteries. He specialized in railway and motive power battery sales from 1946 through 1951.

Fitzmaurice, who replaces John W. Kelly, in Boston, leaves the general offices to supervise sales and service of Exide batteries in Massachusetts, Maine, Vermont, New Hampshire and eastern Connecticut. He joined Exide in 1941 as a sales engineer in Philadelphia and shortly thereafter was granted a leave of absence to serve with the U. S. Navy as a salesman in the Washington, D. C. branch. In 1950 he was transferred to the general offices to become the sales supervisor of the railway and motive power department.

Fred B. Woods Promoted By A. B. Chance Company

FRED B. WOODS has been appointed assistant to the regional sales manager and regional specialist for the southeastern states for the A. B. Chance Co., Centralia, Mo., it was announced by Jack Curtwright, sales manager of electrical wholesaler products. Woods will assist Regional Manager W. A. Moss with administrative duties and supervise all regional representatives in product presentations. He has been in the sales department of the A. B. Chance Co. for the past seven years, most recently as district sales manager in Richmond, Va. He will now headquarter in the A. B. Chance Co. Southeastern Regional Office, Atlanta, Ga.

F. B. WOODS



Architects drawing of Stromberg-Carlson Company's new administration and research building.

STROMBERG-CARLSON®

transmitter

Published by the famous makers of XY® Equipment

VOL. 4, NO. 9 DECEMBER, 1955

While some their lonely vigil keep . . .

The midnight hour strikes . . . once again it is Christmas!

Familiar hymns pour from candle-lit churches; gay carolers defy the frosty air with their own cheery warmth. Small children everywhere, finally settled in sleep, wait for the wide-eyed dawn.

In the telephone office a clear light shines, penetrating the blackness. So that others may enjoy Christmas Eve to the full, an operator keeps lonely vigil.

Perhaps she will compress the miles, carrying greetings to loved ones in distant places. She may be called upon to summon the necessary aid for a tiny babe to be born, even as on that Holy Eve of long ago. It may be that she will **just be there** . . . waiting, ready and capable, so that others can relax at home in the confident calm of this assurance.

To all operators, but especially to those devoted to seeing the job through at Christmas . . . may you know the satisfaction which springs from bringing joy to others . . .

because you were there!

Photo by Harold Webster
Stromberg-Carlson

STROMBERG-CARLSON transmitter

Toll Operator

To show you a day in the life of a "typical" toll operator would be impossible.

There is no such lady. Across the country, you'll find thousands of operators — each as different in her personality, interests and habits as she is in her choice of hats.

On these pages we take you along on a typical evening with toll operator Erma Jane Feeney. A housewife and mother, Mrs. Feeney is an evening operator at the Ogden Telephone Co., Spencerport, N. Y.

The pictures you see here were taken by Harold Webster, of Stromberg-Carlson, during a single evening, as this toll operator goes about her important, but often lonely job of providing good service at all hours.

BUSY EVENING begins at 5:30, when my husband Vern comes home from work. And a little play is squeezed into a busy day . . .

THEN AT SUPPER we hear of a hundred adventures from the magic world of the very young . . .

STROMBERG-CARLSON **transmitter**

. . . AND I RUSH OFF to another world — of flashing lights and voices. A bigger world, with many people for me to bring closer to each other . . .

AS THE DISHES are washed by a competent team . . . →

EACH GIRL AT THE BOARD feels alone . . . but touching on the lives of many people. The girls beside me are busy, too. We hardly ever have time for a chat, except maybe

on our relief. We do a big toll business. All calls to the city (Rochester) come through us. Our town has an XY Dial System, but the information desk is our job. And fire alarms and ambulance calls come through us, too.

. . . ONCE IN A BLUE MOON, the whole board becomes still at once. It's a silence that almost hits you in the face. We laugh because it strikes us funny. It doesn't last, though . . .

. . . WHEN WE'RE BUSY, we can't lose a minute. As one girl takes her relief, her replacement plugs right in on her position and takes over whatever she's doing . . .

AT 8:00 one of the girls goes home. It's even lonelier then . . .

AND AT 10:00, I put up my headset and drive back to our home in the village. Vern's waiting up . . . and we talk . . . it's our chance to be alone . . . it's very pleasant.

STROMBERG-CARLSON transmitter

George Forbes

The Postman's Holiday: No. 4

The mountains beckoned us on as we crossed into northern Georgia. A delightful surprise was the lake and picnic grounds at Vogel State Park. It was already so far past lunch time that a swim seemed the best solution to the whole thing. Later we had a feast of fried chicken — southern, of course — in Atlanta before meeting Jim and Paula Hagen for a Sunday evening tour of Atlanta.

Jim Hagen and Charlotte Mashburn place a new pin on the Atlanta office map.

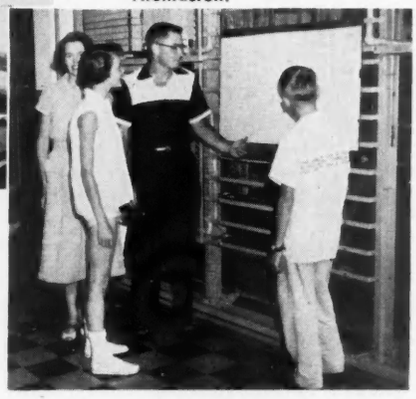
W. L. ("Moon") Mollands, branch manager, and George Masak were on vacation, but Jim Hagen and Mrs. Charlotte Mashburn did the honors of the Atlanta office for Fred and me, while the ladies saw and were nearly conquered by Rich's department store. Our young history students will always remember the "Siege of Atlanta" at the Cyclorama, and of course there was the traditional photo of the family on the steps of the capitol building.

Thomaston, Georgia is just a short run by wonderful roads. For some it is the home of several large textile mills, but for us it was the home of the New family and the Thomaston Telephone Company. They were quietly celebrating the installation of subscriber station number 4500 - - - - a tremendous increase since converting to XY® dial service in 1952. And the mills — B. F. Goodrich tire cords, Peerless sheeting, Dan River fabrics and others, are looking to the telephone company for dial PBX service to handle their own seemingly unlimited expansion programs.

At last all the Forbeses get in a picture! The lamp, dear to the hearts of all Southerners, is just across from the Atlanta office.

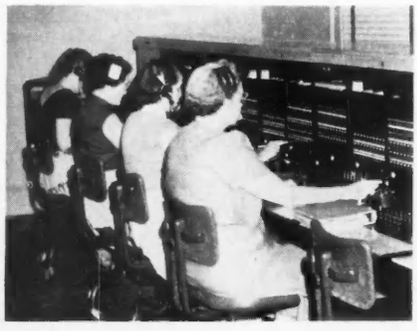
Arlie M. New, manager of the Thomaston Telephone Company, and sons (standing l-r) Madison and A. M. New, Jr.

Madison New, plant superintendent, is host in excellently maintained XY office at Thomaston.

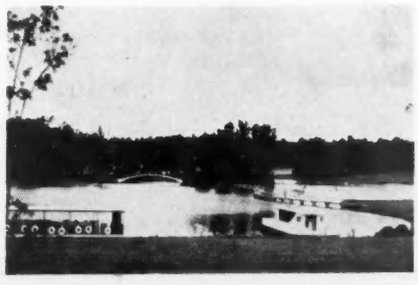


Arlie M. New started in the telephone business in 1915 as night operator, graduated to climbing poles and then became thoroughly familiar with central office equipment as an installer for several years. Recognizing the value of being thoroughly at home in the equipment room, he sent son Madison, now plant superintendent, to the XY Training School just prior to the dial cut-over.

The News have several points of pride in their exchange building: the cable entrance tunnel, the complete standby generating system, the first nationwide intertoll in Georgia (subject only to a counterclaim by West Point). And if you haven't seen Arlie's picnic table cleverly made from cable reels, wangle yourself an invitation!

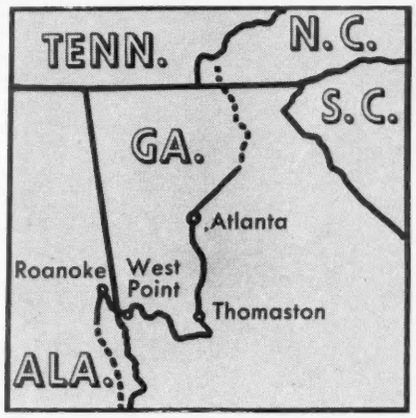


Nationwide Operator Intertoll at Thomaston, under direction of Mrs. Harris Castlen, chief operator.



Serpentine Walk and Japanese Bridge in Ida Cason Calloway Gardens.

STROMBERG-CARLSON **transmitter**



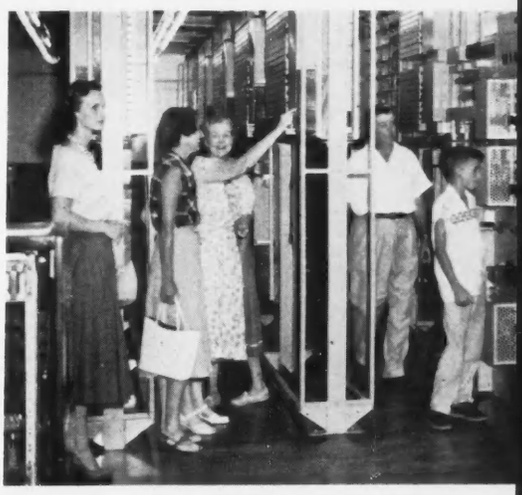
The Keystone of the South (Atlanta) and on into the land of cotton.

We were glad we *couldn't* follow a crow's flight to West Point, Georgia, as our necessary meanderings took us through Warm Springs and the lavish beauties of the Ida Cason Calloway Gardens. Here we "green-thumbed" tips on the local flora from the head gardener.

At *West Point*, nudging the Alabama line, our cordial welcome by J. Smith Lanier was all the more appreciated because we arrived without benefit of preceding letter. Here indeed, is a grand old man of telephony —the first licensee of the Bell Company when they built the original Charleston to Montgomery toll line— who one day called up his old friend President Roosevelt and told him to change the course of the river to prevent disastrous flooding. (It was done!)

Speaking of politics, a candidate running for local office called every telephone subscriber to ask about quality of service; there were only six complaints, and five were for fewer people on the line. Smith Lanier, board chairman; his son, Cam Lanier, president and manager; and grandson, Cam Jr., purchasing agent, have won the complete confidence of their subscribers. Their 1400-line XY System, first of the bay type, has grown with the city. Careful initial planning, plus the gradual replacing of smaller cables with large ones, takes care of held orders before they become acute. West Point, "heart of the Valley," is doing well, with progress sparked by the telephone company, and its management.

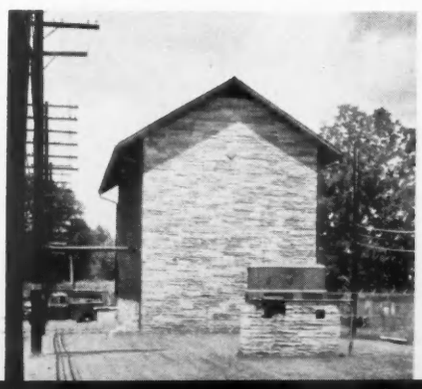
While the family visited towel mills in West Point, your "Postman" drove over to see F. J. "Peck" Cauthen, president of the *Roanoke, Alabama* Telephone Company. This has been a family operation for 50 years — in 1905 there were 83 stations — and grew rapidly under H. H. Cauthen and his son, H. H. Jr., Peck's father. In February of 1952, Peck finished his army service just in time for cutting over the 1200-station XY Dial System. Last July there were about 1500 subscribers and recent contacts indicate a continued growth in the area. Always one to supply newer services as they become available, Peck Cauthen has installed a "6K System" in the city's principal bank. Peck's comment: "Glad we picked a system that can grow with us."



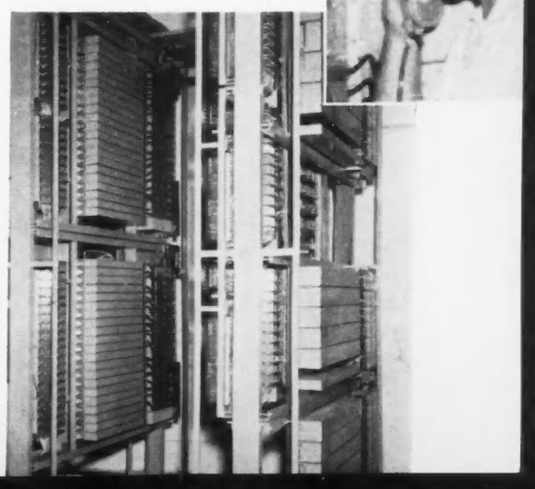
Mrs. Cam Lanier Jr., Mrs. Mize (Cam Sr.'s sister) and Cam Lanier take us through the exchange building.

Three generations: J. Smith Lanier (center), Cam Lanier (right) and Cam Lanier Jr. (left). So well have they served their community of West Point, Georgia, that citizens are hoping Cam Jr.'s son will follow in their footsteps . . . after getting kindergarten and other schooling out of the way.

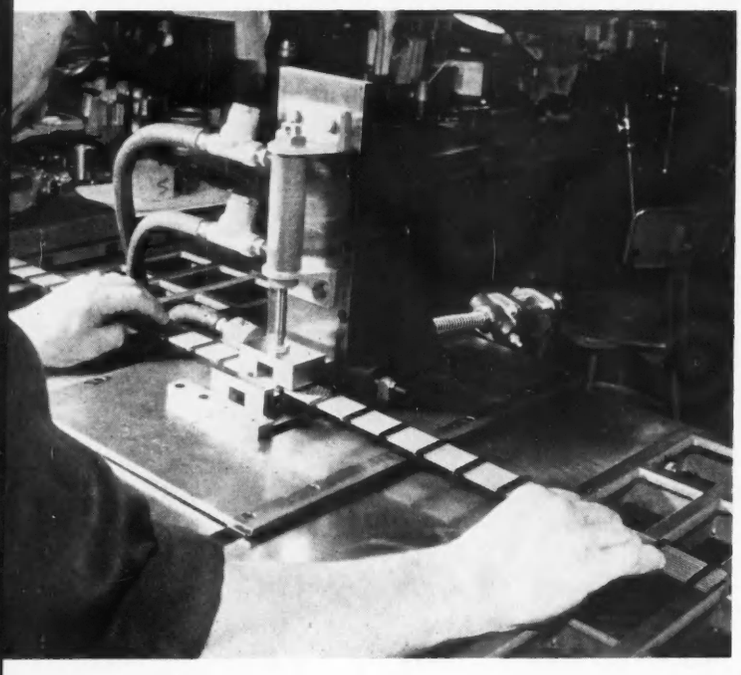
The West Point XY exchange and outdoor emergency generator is built to take floods . . . and it has!



F. J. "Peck" Cauthen, of Roanoke, Alabama, and a portion of his rapidly growing XY office.



STROMBERG-CARLSON transmitter



Basic element in this fixture is standard XY wire bank. Charles Warner, tool maker, cuts off strip using accurate rubberbound wheel.

Lewis Gruschow (left) production engineer, observes inspection techniques of Maurice Le Roy, using special gage.

Redesign of Wiper Alignment Fixture For XY Universal Switch

by George MacCheyne, Electromechanical Development Dept.

In the Electromechanical Development Section, a persistent effort is made to improve the design of our products, and to arrange the features of the design so that manufacture of the articles can be accomplished in fewer man-hours. The redesign of the XY® Universal Switch wiper alignment fixture is a recent example of this type of endeavor. This fixture resembles a portion of our vertical wire bank, about an inch high. It has to be made very accurately, because it is used as a standard on which the wipers of XY Universal Switches are adjusted and set. The wipers of a switch set in this manner are then in correct relationship to any actual wire bank on which the switch may be used. Besides this, certain pairs of wires in the fixture are tied, so that the fixture may be used in conjunction with the XY Universal Switch Portable Test Set.

As formerly made, the manufacturing processes included the making of 242 pins and drilling 484 small holes. Most of this work had to be done in the tool room, because of the close tolerances involved.

When redesign was contemplated, the general aim was to make a better product in fewer man-hours manufacturing time. It appeared that the labor of accurately drilling the 484 small holes and assembling 242 pins could be avoided if we could cut up our standard wire bank into small segments and mount these segments in their proper relationship in some suitable way. It seemed that a suitable way was to set up the segments and mold them together as a unit.

Considerable experimental fixture-making was undertaken with a view to finding a practical solution of this problem. The accuracy and stability which had to be built into the finished product prevented an easy solution. Many ideas were discussed, and several were tried. One of the most successful of these was brought forward by the very men who were making the former model in the tool room. Careful planning on the part of the production engineering department was a feature of this development project from the outset, and the

Kathryn Monte pours epoxy resin to cement wires in fixture. The carefully controlled process gives accuracy superior to a molding process.

later experimental production work was done by that department.

As now made, the first step is to cut off segments of standard wire bank. This is accomplished neatly by a pneumatic clamping fixture and a rubberbound wheel. A molded phenolic base is provided. This base has slots in the top to receive the cut segments. There are eleven segments and their assembly begins with their insertion into a jig which maintains them in correct relationship to each other and to the base. The necessary pairs of wire are tied at this point.

Then cement, an epoxy resin, is flowed into the slots in the base. This modern adhesive compound is applied cold, generates some heat while hardening, and adheres so firmly to the parts that for all practical purposes they may be regarded as molded together. The segments are lowered into the cement and held rigidly in position while it hardens. Later a thin, finishing coat of this same resin is applied.

Back where it started. Bob Grassi (left) and Harold Webster, tool makers, make final adjustments.

Next comes the inspection. This is a crucial step, as more than ordinary accuracy is required of a standard. It is accomplished here with the aid of a special inspection fixture which makes it possible to measure the position of each wire very closely. Having passed this test, the fixture goes to the tool room, where it is assembled to a metallic frame, and final adjustments are made. The fixture produced in this way is more accurate than that made by the former plan. There is a notable saving of manhours in its manufacturing and it is far less subject to accidental derangement caused by shock or mishandling.

Meet the Rest of our Kansas City Salesmen

Carl H. Price

This is a Texas story and even biographies are different in Texas. While some Texans feel that the Lone Star State could annex all the rest of the United States and hardly know the difference, others feel that this is hardly necessary since Texas has everything already. But Texans to a man agree that Texas is indivisible!

And so it is with Carl Price and Gwynn Browell — a two-man team helping each other as they, together, serve Texas, New Mexico, and Louisiana. Whether it be a convention, a cut-over, or a conference, Price and Browell usually turn up as twins — the job gets done, people have fun, and they go their separate ways for a while. Let's meet these men — those of you on the outside.

Carl Price has been a sales representative for Stromberg-Carlson since May of 1947. His wife Opal thinks he is wrapped up in the telephone business and Carl doesn't argue on this point — in fact will fight to make you admit that he has the best customers in the world. Carl and Opal Price recently celebrated their 25th anniversary; with children, Jack and Barbara, grown up and married, Carl and Opal count their blessings that the families are near enough to bring the grandchildren home to Tyler, Texas, for a visit now and then.

Carl belongs to the Independent Telephone Pioneers, the Louisiana Traveler Association and the Elks. Golf and fishing fill in those rare moments of relaxation, but for real fun Carl likes to throw a Stromberg-Carlson telephone onto a concrete highway before making a demonstration to a prospect; or extoll Texas to "foreigners" — especially the younger generation — living outside his private bailiwick of East Texas and Louisiana.

Gwynn Browell, when he isn't teaming up with Carl Price, lives in Brownwood, Texas, and generally covers west Texas and New Mexico. He is a rare combination of salesman and engineer, having spent several years before coming to Stromberg-Carlson with the United Power and Light Company and General Electric in their design engineering departments. He worked as a carrier applications specialist in Rochester before going into sales work, first in Arkansas and Oklahoma, and in his present territory since 1950.

E. Gwynn Browell

Gwynn was born in Regina, Canada, but when your reporter's family traveled with him to visit XY® exchanges at Hobbs and Carlsbad, they thought he'd absorbed a lot of Texas. At least his two children, Diane (10) and Allan (5) know how to wear their "boots and guns" in true style, and drawl as thick as you please.

Gwynn and Carl have seen tremendous growth in the great Southwestern Empire, and each is proud to have had a part in it.

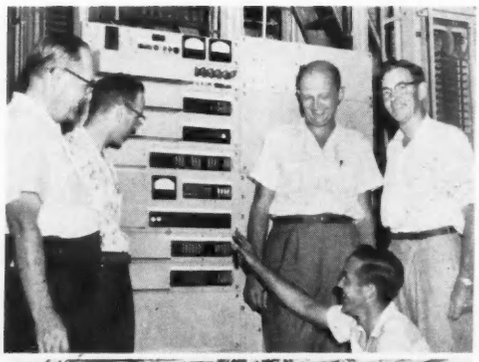
"Mah draw was the fastest thing in Texas 'til that dry-gulchin' XY Switch moved into town!"

STROMBERG-CARLSON **transmitter**

Our candid camera visits . . .

Owensville, Missouri

At Owensville cutover: (l. to r.) Myles L. Woolley, Stromberg-Carlson; Edgar E. Eichler, mayor; Roegner J. Cushing, Stromberg - Carlson; C. T. Davis, president of Fidelity Tel. Co.; and (kneeling) local manager Don Henry.

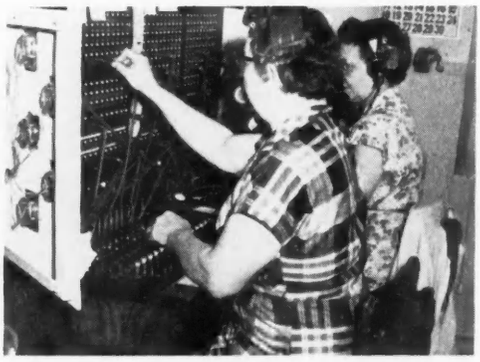


It was 2 p.m. Sunday afternoon, August 28, when the Fidelity Telephone Company cut over its Owensville exchange to XY® dial.

Don Henry and operator Laura Plummer disconnect wires from old manual system, during Owensville cutover.

Granville, Illinois

At Granville cutover to XY dial (l. to r.) Francis J. Cody, Illinois Commerce Commission; M. J. Bolluyt, Stromberg-Carlson; Charles C. Stanton, manager of Granville Telephone Co.; J. G. Hardy, secretary of Illinois Telephone Association.



Operators Margaret Stirnes and Ethel Englehaupt place last-day calls on old manual system.

James Neuburn and Mickey Wallin check main frame of Granville's XY System, which was cut over on September 8.

McConnellsburg, Pa.

L. R. Thurston, president of the United Telephone Co. of Pennsylvania makes first call on new XY System as Paul Musselman, district manager, watches.

Published by Stromberg-Carlson . . . makers of Famous XY Equipment

"STROMBERG-CARLSON" AND "XY" ARE REGISTERED TRADE MARKS OF THE STROMBERG-CARLSON COMPANY, ROCHESTER, N. Y.

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the BACK of the BOOK

By John G. Reynolds

Britain's Telephone Clock

TIM IS 19 years old in London, England — and during his lifetime he has answered more than 515,250,000 telephone calls.

For Tim is a speaking clock. This is how he works: Telephone subscribers in almost any part of the United Kingdom simply dial Tim on their telephones and Tim answers with a woman's voice to say: "At the third stroke it will be . . . . . ."

The voice belongs to Mrs. Jean Bailey of Dundee, Scotland, who made the records as a Post Office employe in July 1936. The same records are still in use and there's little chance they'll wear out since they are encased in glass and operated not by a needle, but by a photo-electric cell.

Although Tim has been around for 19 years, some Britons still don't realize he's a mechanical device. Some reply "Thank you" when they have heard the time, said a Post Office official, and one woman rang up the main exchange in London to complain that "the girl" was rude. "She never spoke a civil word. All she did was keep repeating the time."

There are actually two clocks, one in London and the other in Liverpool, and together they serve most of Britain and Northern Ireland. They can handle 800 calls at the same moment and Londoners alone call Tim about 700,000 times a week.

Smart Idea

PARENTS are getting smarter all the time. Here's an example: Why complain about the kids using the telephone where for a price of a long distance call, one might have a telephone installed for the very own use of the young fry?

It's an idea that seems to be spreading judging by recent reports. At Lubbock, Tex., a good indication of respect for young people's rights (*ahem*) is illustrated in the telephone directory under the listing for Dr. R. K. O'Loughlin. It says "children's number." It's for Sharon, 15, Jeanie, 13; Kathy, 10; Ricky, 5; Robbie, 4; and Pat, 2.

At Hartford, a dentist lists his business and residential number and under it: The Courtouts' Children (there are eight) with their own number.

Donald H. Ogilvy of Scarsdale, N. Y., lists it this way: Children's Telephone.

In New Jersey the public service commission has authorized the telephone company to make a special rate on the second residential teelphone, discounting it 50 cents to $1.25, depending on the zone.

Maybe other states will petition for reductions too, making it easier to persuade Mom and Dad to go for the idea. If not, how about using baby sitting money for the project?

Achievement Test

THE editors of "The Blue Bell" report that Hubert Blaine Wolfeschlegelsteinhausenbergderoff Sr., of Philadelphia, is quite proud of Hubert Jr.'s accomplishments. The boy, just a shade over three years old, surprised his parents recently by saying his name — all nine syllables of it.

You'd think that being a linotype operator, Hubert Sr. would be sympathetic with people who have to tussle with his name.

But the telephone directory lists the full monicker — Wolfeschlegelsteinhausenbergderoff, Hubert B. Sr. — on one full line and his address on another line.

And he told the telephone company he wouldn't pay his bill unless his name was right. So his name, on three lines, always comes properly spelled out.

After all, he explains, "My legal name is Wolfeschlegelsteinhausenbergderoff (it sounds shorter when he says it) and that's the way I want it."

The city gets away with an abbreviated form on its voting registration books. There he's listed as Mr. Wolfeschlegelsteinha — which is as far as the city business machines will go.

Time Control

IT WOULD be a very smart ostrich with a lot of sand who could escape from Chancellor of the Exchequor Butler's new budget in England, which seems equally unpopular with people who live on share profits and the housewife who needs a new dish mop.

Even young lovers, blamed for holding the longest telephone conversations from Britain's public call boxes, are to be penalized. When the young man puts his three pennies into the slot from now on for a chat with his sweetheart, their billings and cooings will be restricted to a few minutes.

Whether the limit is to be three minutes or six for this threepence hasn't been decided as yet, but the ardor chill will be the same.

A Missouri "First"

NO ONE BAKED a cake in honor of the event, but employes of the Citizens Telephone Co., Higginsville, Mo. recently celebrated the first anniversary of their transfer to the dial system and the 2-letter, 5-digit numbering system.

The firm was the first Independent telephone company in Missouri to transfer to the system (The Southwestern Bell Telephone Co. in Kansas City switched to the "two-five" system December 4).

The Citizens Telephone company, with exchanges in Carter and Mayview, has 1,100 telephone lines. *Miss Elizabeth Journey* is manager of the firm and her sister, *Miss Katherine Journey*, is secretary-treasurer.

need

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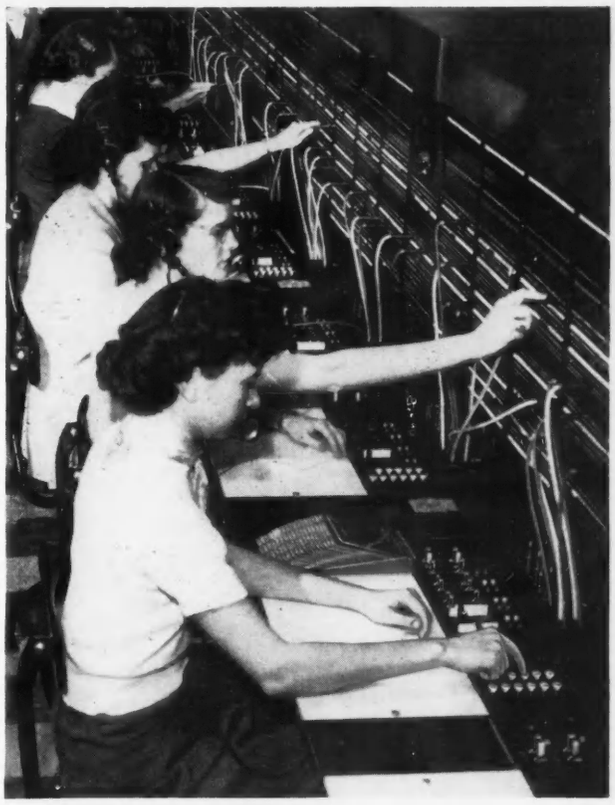
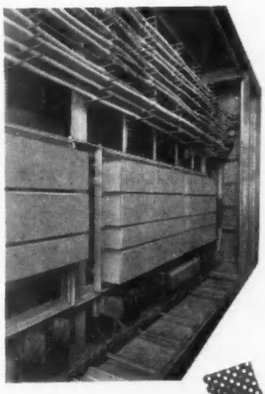
Operating companies using Type 31 find that its efficiency-boosting features are a boon in Nationwide Toll Dialing

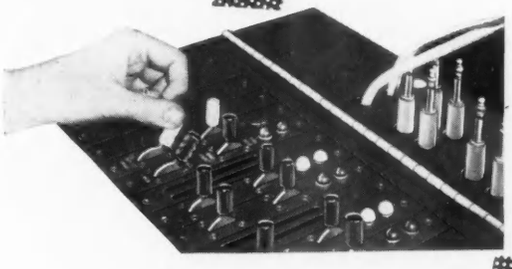


Key-sending operation (as used in 56-position Lincoln, Nebr., installation shown) or dial operation can be provided. Pneumatic tubes can be furnished to speed handling of toll tickets, or a track-type ticket-carrying system can be use.



FAST INSTALLATION:

Type 31 is supplied in two-position, five-panel sections which are exceptionally complete and self-contained. Each line and trunk circuit mounts as a unit on the relay rack, and is wired to a self-contained terminal block. No preformed local cables needed. Simple jumper wiring connects ground, battery, and signal leads.



FAST OPERATION:

New twin-pocket ticket holder keeps each ticket beside the cord circuit concerned — avoids confusion, speeds ticket handling. Supervisory lamps for each cord circuit are mounted on same escutcheon as "talk" and "ring" keys — no need to look from key to jack panel. Ample key-shelf space provided for easy writing and for a work-speeding bulletin-holder and calculagraph.

FAST MAINTENANCE:

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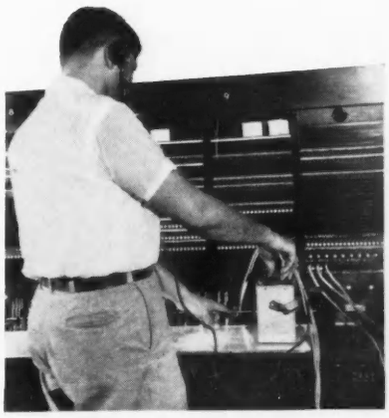

Get full facts on how Type 31 Toll Board will save you money. Send for Circular TM 1838. *Address: Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7. Or, call HAymarket 1-4300.*

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